REPORT RESUMES

ED 015 161 SP 001 388

INSERVICE EDUCATION--PERSPECTIVES FOR EDUCATORS.
BY- WESTBY-GIBSON, DOROTHY
FAR WEST LAB. FOR EDUCATIONAL RES. AND DEV.
PUB DATE 67
EDRS PRICE MF-$0.50 HC-$3.36 82P.

DESCRIPTORS- AUDIOVISUAL AIDS, *BIBLIOGRAPHIES, COURSE OBJECTIVES, *EDUCATIONAL INNOVATION, EDUCATIONAL TELEVISION, FILMS, INSERVICE COURSES, INSERVICE PROGRAMS, *INSERVICE TEACHER EDUCATION, *LITERATURE REVIEWS, PROGRAM DESIGN, *PROGRAM DEVELOPMENT, PROGRAM EVALUATION, SENSITIVITY TRAINING, VIDEO TAPE RECORDINGS

THIS REVIEW OF CURRENT LITERATURE ON INSERVICE EDUCATION COVERS 184 ITEMS RANGING FROM NEWSPAPER ARTICLES THROUGH JOURNALS TO BOOKS AND FUGITIVE MATERIALS DURING THE 1950 - 1967 PERIOD. RESEARCH IS DISCUSSED IN TERMS OF THE SOCIAL SETTING IN WHICH THE SCHOOL IS PLACED AND THE SETTING THE SCHOOL PRODUCES. THE INTERACTIONS BETWEEN TEACHER AND SCHOOL ARE CONSIDERED. THE FOREGOING IS THEN RELATED TO THE PROCESSES OF CHANGE IN THE SCHOOL. UNDER THE RUBRIC OF RECENT INNOVATIONS THAT AID EDUCATORS IN INSERVICE EDUCATION PRACTICES, VARIOUS NEW PRACTICES AND DEVICES ARE DISCUSSED, SUCH AS THE USE OF (1) SYSTEMS ANALYSIS, (2) INTERACTION ANALYSIS, (3) MICROTEACHING, (4) SENSITIVITY TRAINING, (5) VARIOUS ELECTRONIC MEDIA, FROM MOVIES TO COMPUTERS, AND (6) THE DIVERSIFICATION OF STAFF AND ITS DUTIES. THE PROBLEMS OF DECISION-MAKING AND LEADERSHIP IN INSERVICE PROGRAMS ARE DEALT WITH, WITH EMPHASIS ON SOUND PREPARATION AND RIGOROUS EVALUATION. THE TEACHERS OF THE DISADVANTAGED ARE SEEN AS A SPECIAL CASE, NEEDING SENSITIZING TO THEIR PARTICULAR CLIENTELE. THERE IS AN EXTENSIVE BIBLIOGRAPHY, AND APPENDICES DEALING WITH (A) RESEARCH IN NEW MEDIA FOR INSERVICE EDUCATION (PRESENTED IN TABULAR FORM) AND (B) A COMPARISON OF VIDEOTAPE AND FILMS. (RP)

SPO [illegible]288

DEC 15 1967

ED015161

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

INSERVICE EDUCATION:
Perspectives for Educators

By Dorothy Westby-Gibson

INSERVICE EDUCATION:

Perspectives for Educators

By

Dorothy Westby-Gibson

Dorothy Westby-Gibson is professor of education at San Francisco State College. She has had teaching and administrative experience in the public schools and has worked extensively with inservice education programs for local school districts, the State Department of Public Health, and the U.S. Naval Command Schools. She has directed two NDEA Institutes for Teachers of Disadvantaged Youth. Dr. Westby-Gibson is the author of Social Perspectives on Education: The Society, the Student, the School (John Wiley & Sons, Inc., 1965), Grouping for Improved Instruction (Prentice-Hall, Inc., 1966), and the editor of Social Foundations of Education: Current Issues and Research (The Free Press, 1967).

Portions of work reported herein were performed pursuant to a contract with the U.S. Department of Health, Education and Welfare, Office of Education. This publication should not be reproduced, except in its entirety, without prior consultation with the Far West Laboratory for Educational Research and Development, 1 Garden Circle, Hotel Claremont, Berkeley, California, 94705 (Telephone: 415-841-9710).

CONTENTS

FOREWORD v

CURRENT RESEARCH FINDINGS AND THEIR IMPLICATIONS FOR INSERVICE EDUCATION.... 2

1. The Nature of the Social Setting........ 3
2. The Social Structure of the School........ 4
    The Formal Structure........ 4
    Role Structure........ 5
3. The Teacher in the School........ 7
4. Interaction between Teacher and School........ 11
    Group Factors........ 11
    Leadership........ 12
    Communication........ 13
5. The Change Process........ 15
    Research and Development........ 15
    Diffusion and Adoption........ 16
    Models for Change........ 18

RECENT INNOVATIONS THAT AID EDUCATORS IN INSERVICE EDUCATION PRACTICES...... 20

A Systems Approach........ 20
    Objectives........ 20
    Approaches........ 22
New Patterns of Inservice Practices........ 22
    Use of Intensive Group Experience........ 23
    Use of Feedback........ 24
        From Pupils 24
        From Interaction Analysis........ 24
        From Microteaching........ 26
    Use of New Approaches to the Processes of Thinking........ 27
    Use of Action Research........ 27
New Instructional Media........ 28
    Television 30
        Open-Circuit Television........ 30
        Closed-Circuit Television........ 31
        Videotape 32
    Films and Kinescopes........ 32
    Programed Instruction........ 33
    Computers........ 34
    Filmstrips, Slide Series, and Audio Tape........ 34
New Uses of Staff in Inservice Education........ 34
    The Teacher........ 34
        Each-One-Teach-One Approach........ 34
        Cooperative Teaching Approach........ 35
    The Principal 35
    The Supervisor 36
    The Clinical Professor 36
    The Consultant 37

New Approaches to Scheduling and Finance.............................. 38
  Use of Prime Time.............................. 38
  Use of Support Money.............................. 38
New Cooperative Approaches.............................. 39
  The Cooperative Council.............................. 39
  The Research and Development Centers.............................. 40
  The Regional Laboratories.............................. 41

CRITERIA BY WHICH EDUCATORS MIGHT MAKE DECISIONS ABOUT INSERVICE EDUCATION.. 42

SPECIAL PROBLEMS IN MAKING DECISIONS ABOUT INSERVICE EDUCATION.............. 43

  Need for Administrative Leadership.............................. 43
  Need for Staff Involvement.............................. 44
  Need for Simultaneous Development of Curriculum and Inservice Education.............................. 44
  Need for Evaluation and Research.............................. 44
  Need for Knowledge and Use of Resources to Help.............................. 45

INSERVICE EDUCATION FOR TEACHERS OF THE DISADVANTAGED--A SPECIAL CASE....... 45

1. Need to Gain Respect for the Disadvantaged.............................. 46
2. Need for Field Work in the Disadvantaged Community.............................. 47
3. Need to Develop Special Skills.............................. 48
4. Special Problems in Teaching the Disadvantaged.............................. 51
5. Patterns of Inservice Education for Teachers of the Disadvantaged.. 51

A LOOK AHEAD TO THE 1970's.............................. 52

BIBLIOGRAPHY.............................. 53

APPENDIX A Summary of Research: Use of Media for Inservice Education.... 69

APPENDIX B Comparison of Videotape and Film.............................. 75

FOREWORD

Inservice education reflects our national struggle "to keep up" and to go ahead. Each of us, whatever his occupation, must continue his learning. Inservice education of professional men and women, managers, technicians, and skilled workers in all occupational fields is of national concern. Inservice education of teachers is, especially, of national concern.

In the fall of 1966, the Far West Laboratory for Educational Research and Development began a review of the literature in professional education and the behavioral sciences to determine what implications findings in these fields might have for the professional education of teachers in service. A psychologist, a social psychologist, a sociologist, and a media specialist were selected to work one-fourth time each with a teacher educator to conduct the year's survey.

This booklet represents the review prepared by the project team for the staff of the Far West Laboratory. The Laboratory defines reviews in its document, Laboratory Activities (November 1967), as "essential activities with the limited purpose of searching research literature or compiling experience and opinion about a problem area." (p. 17). The Laboratory was required to make decisions about its Teacher Education Program before the review could be completed, therefore, these findings could not be used as the primary basis for the current Teacher Education Program of the Laboratory. It does serve as a basis for decisions about other programs of the Laboratory and for information of educators and others concerned about inservice education in California and the U.S. The review is presented in highly readable form with the implications for each area carefully described. The author, Dr. Dorothy Westby-Gibson, Professor of Education at San Francisco State College, is qualified to prepare this publication.

Perspectives for inservice education from the psychological literature were prepared by Dr. James Asher, Professor of Psychology at San Jose State College. Sociological perspectives were prepared by Dr. Peter Etzkorn, formerly Chairman of the Department of Sociology at the University of Nevada and now at University of West Florida, and David Berry, a doctoral candidate at the University of Nevada. A television script on outstanding inservice education practices has been developed from the study by Gaither Lee Martin, Director of Instructional Television Center at San Jose State College.

The work of this study would not have been as thorough had it not been for our able research assistants: Joan Bean, George Canney and Pat Keener.

This publication is recommended for educators who must make decisions about inservice education programs for teachers and other professional staff members in our rapidly-changing schools.

Warren Kallenbach, Director,
Project C: Requirements for
Education of Teachers and
Other Professionals

October 25, 1967

INSERVICE EDUCATION: PERSPECTIVES FOR EDUCATORS

If you are a school administrator, curriculum coordinator, supervisor, teacher, or board member, you are most likely engaged in inservice education. More than nine out of ten urban school districts offer opportunities for professional growth of teachers in service (NEA Research Division, 1966). Their programs range from curriculum committees and workshops to closed-circuit television presentations. They run the gamut from courses in the new English to sensitivity training.

Continuing education is essential to the professional growth and development of teachers. In spite of the number and variety of programs being offered, however, a serious gap exists between education ideas and practices in the classroom. In a study of the adoption of education innovations in the 1930's, Paul Mort and F. G. Cornell (1941) found that it took fifty years from the time an invention or adaptation was made until it spread through most of the school systems of the country. In the first fifteen years it reached only 3 percent of the school systems; in the next twenty years diffusion accelerated rapidly; and in the last fifteen diffusion finally reached the late adopters.

Diffusion rates of the 1960's are no doubt considerably accelerated over those of the 1930's, but a critical gap remains. At a recent seminar on educational innovation sponsored by the Kettering Foundation and the U.S. Office of Education, Norman D. Kurland, (Benet, 1967) pointed out that: "The several hundred million dollars that are available to us for developing innovations aren't going to make much impact unless they are used to change the way we spend the total of $40 billion that goes for education each year." Educators, he said, depend too heavily on one method of spreading bright ideas, that of telling people about them and expecting them to be put into practice.

Education today, as David Clark (1962) has suggested, may be at about the same point that agriculture was toward the end of the nineteenth century. The primary means of communicating to the farmer was by way of the printed work which made very little impact on agricultural practice. Agriculture has found new ways of helping farmers use new methods. Education too is finding new ways of closing the idea-practice gap; one of the most promising is inservice education.

How can inservice education be more effective? This booklet is directed to those who are concerned with this persistent question. Specifically, this booklet:

1. Reports appropriate findings from current research and suggests implications for inservice education.
2. Examines recent innovations in inservice education practices.
3. Arrives at some criteria by which educators might make decisions about inservice education.
4. Explores briefly some special problems in making decisions about inservice education.
5. Presents inservice education for teachers of the disadvantaged as a special case.

CURRENT RESEARCH FINDINGS AND THEIR IMPLICATIONS FOR INSERVICE EDUCATION

Much has been written about inservice education, but most of the writing has been descriptive and subjective. Only recently have research studies attempted to evaluate inservice programs.

This booklet draws on research not only specifically from the field of education but also from related disciplines in the social and behavioral sciences. Special attention has been given to the resources provided by the fields of psychology, social psychology, and sociology.

A word of caution is perhaps in order at this point. Much of the research that has been selected for review relates to change. In itself, change holds no value connotations. It may be for good or bad. Educators, however, are concerned with improvement. Inservice education programs are designed not only to change educational practice but to improve classroom instruction.

If education is to be improved, scientific knowledge must be used for _planned_ change. "The alternative to planned change," as Roland J. Pellegrin (1966, p. 1) pointed out, "is to be buffeted about by the pressures and demands of a society that clamors for educational services of many kinds." To use knowledge in the field of education effectively requires linkage between educators and researchers. This linkage is only beginning to be explored as a concept in education. Inservice education would appear to provide one avenue for reaching this goal.

Schools, as viewed here, are social organizations; that is, they are open, dynamic systems (Katz and Kahn, 1966). As organizations they are continually transforming an input of human and financial resources into an output of educational services to students.

Our plan here is to view this social system from five perspectives:

1. The nature of the social setting.
2. The social structure of the school.
3. The teacher in the school.
4. Interaction between the teacher and the school, and
5. The change process.

In each instance we draw, from existing research, implications for inservice education.

1. The Nature of the Social Setting

Schools are interdependent with their communities. Because they are open systems, they always depend upon their environment for the necessary input to activate their educational processes and for the use of their service output. They serve a wide variety of communities: large and small; urban, suburban, and rural; and with widely differing social backgrounds. These communities, in turn, vary in their openness to modern educational practices (Tyler, 1961).

Community attitudes and pressures cannot be easily changed or ignored (Carlson, 1964). If change is to occur, support must be obtained from both the formal and informal leaders of the community. If such support is not enlisted at the start, subsequent rumors may make later community acceptance impossible (Holmberg, 1952). In some communities attitudes may inhibit change in the schools (Goslin, 1965). Innovations, for example, that are being used in other systems may be seen as "no better--and perchance a trifle worse than what...[we are] already doing." (Brickell, 1964.) In other communities attitudes may sanction change. What seems to make the difference is the degree of community understanding of the schools. A high level of understanding builds both psychological and financial support for change. To promote such understanding, administrators, board members, and, to a lesser extent, teachers must relate themselves to their community structures (Charters, 1962).

Implications for Inservice Education:

1. Schools must seek a high level of community understanding of their goals and practices if they are to have community support for planned educational change.
2. Because schools differ in the communities they serve and in their social composition, individual schools should exercise considerable autonomy in planning programs of inservice education.

2. The Social Structure of the School

Schools, of course, are bureaucratic structures. As they increase in size, they become more specialized in function. Their lines of authority and communication become more and more complex.

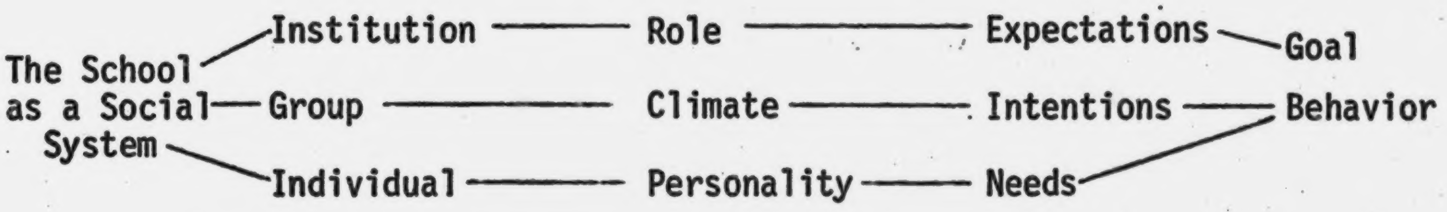
The Formal Structure

The formal organization of the school greatly influences how teachers and other school personnel function. School systems can use their central offices to provide incentives and resources to teachers and administrators, but many illustrations show that bureaucratization can impede progress toward goals. Philip Katz (1967) describes the gap of eighteen months between the time a principal places an order for the item and the time it is filled. "Even more serious," he notes, "is the idea gap." (p. 325.) Most school systems provide little structure for feeding ideas into their system on a selective basis.

School systems, then, tend to remain stable. They tend to put all their energy into current operations so that no resources remain for introducing genuinely innovative programs. Even when special funding is available to support change, they are likely to "do more of the same," albeit under a new guise. The hierarchical structure of large school systems tends to segregate the various levels of authority, to reduce communication, and to make veto of change efforts more likely (Mott and Neff, 1962). Individual differences are likely to be disregarded. Teachers are considered uniformly competent, and little incentive exists for individual teachers to increase their competency. Measuring their educational output is very difficult and improving it does not result in any immediate economic payoff (Miles, 1964).

[Centralization may result in the advocacy of new ideas which do not become implemented in the classroom. Schools in Chicago, for example, found that excellent curriculum guides could be prepared on a centralized basis for a system with five hundred schools without influencing classroom practice (Havighurst, 1964).] A report on this program concluded: "it seems to have succeeded least in the schools in which the pupils have the greatest need." (p. 115.)

Schools as formal organizations can be changed in two ways: by changing their structures and by changing their personnel. Jacob W. Getzels and Herbert A. Thelen (1960) proposed a framework for the study of the school as a social system that appears relevant here and is illustrated by the following diagram:



Viewed from this perspective, the school specifies roles and defines role expectations that it anticipates will result in achieving its desired goals. The group becomes a mediator between the individual and the institution so that its climate and intentions also lead to the expected goal behaviors. Finally the individual, who may be the teacher, with his own personality and needs is led to identify with the goals of the system so that they become part of his own needs. In turn, he comes to believe that the roles expected of him are rational and to feel a sense of belonging to a group with emotional identifications and rational beliefs similar to his own.

In this and the next two parts of this section we shall in some measure use this model. We examine here the role structure and expectations for teachers; in the next part, the individual teacher, his personality and needs; and in Part 4 the group factors that affect the interaction between the teacher and the school.

Role Structure

Some role expectations for teachers are shared by nearly everyone, according to comprehensive research on teacher's roles conducted in the greater Kansas City area (Biddle et al., 1961). Significant differences in teacher role expectations, nevertheless, exist among different types of communities and individuals from varying occupational and social backgrounds.

Teacher roles, furthermore, are changing. Gordon C. Lee (1966) reported the change in teacher roles from pluralistic to singular, from diversified to specialized. He also indicated that instead of the teacher being viewed primarily as a source of data, as one who dispenses information, he is increasingly being viewed as a catalyst in the learning process, as one who mobilizes the materials for learning.

Dean M. Laux (1965) pointed up the conflict that may be emerging between the concept of teacher as clerk, that is, one who is increasingly utilizing preplanned and prepackaged materials and methods of instruction, and the teacher as resource, that is, one who is increasingly playing a decision-making role in coordinating resources and directing student inquiry.

Many school districts are experimenting with programs that demand new roles of teachers. Some, for example, are attempting to construct programs such as the Individually Prescribed Instruction Project (Cox, 1966) that individualizes teacher instruction and adapts educational programing to fit pupils' abilities and interests. Each student is enabled to work through a sequence of instructional units at his own pace with frequent evaluations of his progress.

> Professionally trained teachers are employing themselves most productively when they are performing such tasks as instructing individual pupils or small groups, diagnosing pupil needs, and planning instructional programs rather than carrying out such clerical duties as record keeping, test scoring, etc. (p. 2.)

Teachers were interviewed at the end of the first year to find out their reaction to their new roles. They reported that they liked the idea of individualization. Some said they thought their time was better used and praised the instructional materials available. They disliked some of the materials, the large size of the group in one room (80 to 90 children), delays which caused some pupils to have nothing to do, and lack of close contact with a particular class. Generally they mentioned that the most able children seemed to benefit the most as they were not held back, but the less able, although not pushed, tended to become discouraged and to waste time. The teachers themselves indicated that they felt under great pressure for decision-making.

They concluded that "much orientation was needed for this more flexible and relaxed role, which demanded much preparation and little showmanship. A few said that they missed a captive audience but that they found the child more responsible. All agreed that initial adjustment to their new roles had been difficult." (p. 14.)

Implications for Inservice Education:

1. Teachers should be helped to learn new roles as they change from being primarily dispensers of information to becoming catalysts in the learning process and coordinators of instructional materials.
2. Teachers should upgrade their knowledge and mastery of basic fields of learning.
3. Teachers should learn to use resource specialists who can supplement their competencies.

3. The Teacher in the School

One approach, then, to the problem of planned educational change is to alter in some way the social structure of the school. But, as Herbert A. Thelen (1967) pointed out, changing the structure does not guarantee changed behavior. Changing the formal structure or the role expectations is not enough. "The quality of process depends on the *quality* of behavior: its affective and attitudinal loading." (p. 327.) Another approach, therefore, is to work with the motivations, needs, and potentials of the individuals involved, that is, the school personnel. In other words, the human relations aspect of the school must be considered (Gross, 1964).

If an organizational change is to be made, careful preplanning should acquaint the persons who will be affected with the reasons for the change. Otherwise, even if the new system appears to make sense, some individuals may feel that their roles have been undermined (Blanke, 1965).

Teachers are more likely to accept new programs if they are well coordinated with old ones. Even if they have no part in preparing new programs they will be more accepting of them if they are called *remodels* rather than *new* models (Olson, 1965). The new programs, however, must be seen as more than just slightly different versions of the old ones or teachers may not think it worth the effort to make the change (Miles, 1964).

Induction into teaching is an especially critical time in role learning. Individuals may need special help as they experience the "reality shock" of moving from the role of student to that of teacher (Wagenscheim, 1950).

New and old teachers alike find that the roles expected of them are ambiguous. Different people hold differing expectations which may result in role conflicts for the teacher (Gross, Mason, and McEachern, 1958 and Biddle *et al.*, 1961). Some conflicts may arise between a school's role expectations for teachers and the individual personalities of the teachers.

Teachers, for example, may be asked to play disciplinarian roles which they find difficult. Some problems result from the conflicting demands of differing role expectations. Teachers, for instance, may be expected not only to be disciplinarians but also to be counselors to their students. Still other conflicts occur when teachers perceive their role expectations differently from the way administrators perceive them. When asked to play the role of disciplinarian, for example, they may play it very differently from the way the administrators anticipate.

That teachers experience role conflict is not surprising. Their role demands are many and variously interpreted. In some measure, furthermore, conflict may give rise to productive transformations and inventions (Getzels, 1963). If no frustrations were experienced, no changes would occur.

If teachers are to be enabled to make a more constructive contribution to educational change, they must be encouraged to exercise more autonomy. On the one hand, however, administrators are frequently reluctant to give teachers more autonomy. Superintendents are often too busy to get to know teachers and, as a consequence, give them little autonomy. Principals and other administrators may have poor relationships with teachers. On the other hand, teachers, may not want to take the responsibility that goes with authority (Seeman, 1962).

Teachers are often viewed as having a role-set (Merton, 1957) which makes it difficult for them to accept new role definitions. Some researchers have posited a relationship between authoritarianism and the choice of teaching as a profession. Some, such as A. D. Juul (1963), have suggested that individuals who display extreme authoritarianism should not be permitted to enter a field where they have constant contact with children. Studies of teachers' motivations for career choice and of authoritarianism, however, do not document any clear relationship between authoritarianism and the teaching profession. Some teachers, of course, demonstrate authoritarian behavior; for them stereotyping may play a particular personality function. But teachers are not necessarily authoritarian.

If individuals are to change their behavior, they must change their psychological set, "a set to be set for that which we are not set for." (Browne, 1957.) That this set can be changed is indicated by a study of student teachers who were told that their course grades in student teaching and in educational psychology would depend upon the amount of learning by their secondary school students as measured by standardized tests. Their performance was compared with a matched group of student teachers not subject to such a contingency. A definite and positive effect upon learning was reported. Furthermore, the contingency appeared to produce a positive effect upon the teacher's receptivity to teaching innovations (Wittrock, 1962).

> A prudential principle of change facilitation, would, therefore be one of risk reduction: introduce at such points, at such a rate, those items of novelty best calculated to perpetuate the least amount of inevitable resistance and disruption, for these latter are, it must be remembered, always endemic to the culture. Raymond Loewy, the industrial designer, has called this crucial point the "MAYA" point, the "Most Advanced Yet Acceptable" stage of novelty. (Meadows, 1964, p. 75.)

Greater acceptance of new ideas will result if teachers are given an opportunity to participate with administrators in planning programs of inservice education. If they have a share in selecting the problems to be solved and in planning the actual programs, they will have a greater commitment to these programs (Kinnick, 1957 and Bell, n.d.; Plank, 1959).

Teachers need to be helped to make inservice training more of a personal and professional responsibility. Even if they are selecting existing courses for inservice study, they will make more practicable and worthwhile choices if they preface their selections with self-analysis (Childress, 1965). If they are contemplating new programs, they must see them as personally rewarding. Many programs of inservice education offer direct rewards such as obtaining salary increments, higher teaching certificates, or requirements for tenure (NEA Research Division, 1966). Although such rewards may attract attendance, if teachers are to be genuinely committed to professional growth, they must see inservice education programs as individually meaningful to them.

Moreover, teachers vary greatly in their needs for continuing education and have different needs at different points in their careers. Wide variety, therefore, of professional growth opportunities should be offered. Not all districts, however, take the individual needs of their teachers into account. Some districts, for example, take their cues from other districts in planning the number and kinds of workshops to be offered.

One avenue to strengthening the hand of teachers in decision-making may be the strengthening of professional teacher groups. At present they appear little able to counteract or limit educational change whether it be beneficial or detrimental (Lieberman, 1961). The strengthening of professional groups may help teachers and schools to become more autonomous in making decisions about inservice programing.

Whether or not individual teachers participate in programs of continuing education may well be determined in part by the expectations held by their peers. Groups show strong capabilities for structuring the expectations of their members. We explore some of these group influences more in detail in the next part of this section.

Implications for Inservice Education:

1. Teachers themselves should determine to a much greater extent their inservice needs.
    a. Teachers should be encouraged to analyze their individual inservice requirements.
    b. Teachers should be involved with administrators in planning inservice programs.
2. If changes in school programs are to be made, the reasons for the changes should be made clear to the teachers.
3. Wherever possible, new programs should be coordinated with old; they should be "remodels" rather than new models.
4. Some programs of inservice programs should differentiate between new and experienced teachers; teachers have differing needs for inservice education at different points in their careers.
5. Studies should be made of the extent to which and the circumstances under which inservice education eases the transition from the role of student teacher to that of teacher.
6. Teachers need help in developing more realistic goal expectations and in understanding the consequences of role conflict and the ways to resolve it.
7. Inservice education should provide a variety of growth opportunities; ways should be found to assess teacher readiness for various kinds of programs.
8. Inservice education should result in greater readiness for "that which we are not ready for."
9. The role of professional teachers groups in inservice education should be strengthened.

4. Interaction Between Teacher and School

The individual does not stand alone in relation to the institution. He is a member of a group whose climate and intentions aid or hinder him in reaching the stated institutional goals. For the teacher, his peer group can serve as a mediator between him and the school as an institution so that he can find identification and a sense of belonging. In this way the role demands of the institution can become more rational for him.

Group Factors

Teachers' peers, then, become significant reference groups. Much research has documented the influence of the group on individual behavior. Individuals are likely to permit a group to structure their expectations to the extent that they perceive the goals of the group and the value systems of its members to be in accord with their goals and values (Stogdill, 1959). If teachers feel that they are members of a faculty that has similar goals to theirs, they are more likely to conform to group expectations.

Group participation may result in shifts in the level of aspiration of individual members (Festinger, 1942). If teachers join a faculty with high standards of performance, they are likely to try to meet these standards. If, for example, older teachers view new curriculum content and methods as desirable, new teachers are more likely to try to implement them. But if they find that most of their peers are unwilling to accept innovations, they too may reject them.

Groups, then, pressure for conformity (Festinger, 1950 and 1954). Group participation increases the likelihood of conformity even by deviant members (Kidd and Campbell, 1955; Asch, 1952). Teachers' groups, like other groups, may well measure their success by the degree to which they are able to induce conformity in attitudes, values, and behaviors. Individuals, in turn, are more likely to change their attitudes if they perceive that group norms are changing (McKeachie, 1954) or to act if they feel that there is a high degree of group consensus regarding a given behavior (Bennett, 1955).

Peer groups, furthermore, can give their members support. Studies, for example, show that men in combat are better able to withstand stress and show less fear when they are accepted and supported by their peers (Shils, 1950). Cecil Parker (1957) outlined guidelines for inservice education based on the results of the California Cooperative Study of Inservice Education, a five-year program in Oakland, Alameda, and Stockton, and the California Regional Project in Secondary Education. He emphasized the importance of group processes in creating a climate conducive to building mutual respect, support, permissiveness, and creativeness. He recommended that many opportunities be developed for teachers to relate themselves to each other, especially in work on common problems.

Leadership

New concepts of leadership emphasize that a leader will be accepted by group members to the extent that he helps them achieve their goals. Administrative behavior may be seen as varying on two dimensions: the initiation of structure related to group achievement and the initiation of consideration related to group maintenance. (Basic studies: Hemphill and Coons, 1950; educational administration studies: Halpin, 1956; closely related studies: Getzels and Guba, 1955.)

The effective leader is able to diagnose the group needs for structure and consideration and to change his behavior as necessary. Teachers who are able to fulfill the "initiating structure" role of leadership are likely to receive social approval, respect, admiration, and esteem from their students (Smith and Luty, 1964). Teachers who were high on respect and low in liking had the highest initiating structure scores and those who were low on respect and high on liking had the lowest. Interestingly enough, teachers who were perceived as fulfilling only the "consideration role" did not perceive special social approval and liking from their pupils.

Fortunately a climate for growth and the emergence of leadership in the schools can be fostered (ASCD, 1960 and Fuller et al., 1967). Decentralized decision-making procedures encouraged leadership behavior, because the number of leadership roles is increased. Providing for public recognition of achievement, growth in human relations skills, and productive involvement increases leadership behavior.

(The leadership of school administrators is crucial to educational change. In the local school the principal plays a key role. He can give or withhold vital sanction and rewards. (Brickell, 1961; Griffiths, 1964; Johnson, 1963; Gross, 1964.) Hilda Taba (1965) in her work in inservice education of teachers required the sanction of principals even though the teachers volunteered.) Whatever findings the group recommended went back to the principals and other teachers in the system. The result was that principals themselves asked to participate and to have the program expanded. In the system as a whole the superintendent plays a key role. If he is well-recognized in his profession and interacts frequently with other school superintendents, he is more likely to be an early innovator (Carlson, 1964 a).

Roles of administrators are changing (Ohles, 1964; Lipham, 1964). Administrators as well as teachers need to increase their professional competence through programs of inservice education (Moore, 1964). What seems indicated, then, is greater administrator-teacher cooperation in educational decision-making (Corey, 1957). Administrative guidance appears especially necessary if in-service problem-solving groups are to be oriented to long-range considerations (Bahner, 1964). Some teacher, however, will be faced with the problem of conservative administrators who do not give them adequate support as they seek to solve inservice problems. Teachers in turn, may be poorly prepared to solve these problems.

Communication

Underlying all these aspects of interaction between the teacher and the school is the question of communication. Teachers are well aware of the complexities of school communication patterns. On the one hand are the formal channels within the educational bureaucracy that define authority, communication, and responsibility; on the other, all the informal communication patterns that exist in social organizations such as the school (Charters, 1964). When these formal and informal communication patterns are functioning within a permissive bureaucratic structure, organizational goals are likely to be realized more easily then in an authoritarian system (Guest, 1962).

Whatever the basic communication pattern in a given school, it is likely to show high stability. Even in a school with a fifty percent staff turnover in a six-month period, the pattern of communication has been demonstrated to remain very much the same (Charters, 1957). The rate at which information will be diffused depends on how well articulated the communication network is (Rollins, 1958). If channels of communication are open both vertically and horizontally, suggested changes are more likely to be accepted (Mott and Neff, 1962).

Once a communication is disseminated, however, how a recipient responds to it depends upon his perception not only of the message but of the source (Bauer, 1964). If he perceives that a recommendation for an educational change comes from someone whose judgement he respects, he will be much more likely to respond favorably. For communication is frequently a two-step process: It involves first those who are in a position to influence others. Paul Wendt (1964), for example, suggests that an educational film on innovation in education would likely have more effect if it were shown first to individuals influential in education who would, in turn, communicate its import to teachers, than if shown to teachers directly.

In any bureaucratic system, there exist informal relationships that can in some measure compensate for the deficiencies of the formal structure (Charters, 1964). In schools which depend on such informal communication to transmit essential information, the question may be raised as to the adequacy of the formal structure. In such instances the first step should be to try to identify the nature of the communication problem (Griffiths, 1964).

Implications for Inservice Education:

1. Inservice education programs should be organized in such a way that conformity to group norms will result in behavior changes.
    a. At least initially, groups should be made up predominantly of those who are ready for change.
    b. If certain teachers do not demonstrate an openness to change, they should perhaps be in the minority in a group with others who are more prepared to consider possible change.
2. Taking formal courses may not be as effective a means of inservice education as more informal processes.
3. Teachers and especially beginning teachers may need help in learning how to achieve a balance of structure and consideration in their classrooms. Similarly administrators and especially new administrators may need help in achieving a balance between structure and consideration in working with teachers, particularly in setting up inservice education programs.
4. Teachers and administrators should cooperate in planning inservice education programs. Teachers' help is especially needed in identifying inservice problems; administrators, in guiding programs toward long range objectives.
5. Designated administrative roles should include a responsibility for educational leadership in inservice education.
6. Inservice training programs should be planned for administrators as well as teachers.
7. Communication channels should be explicitly defined.
8. Informal as well as formal communications networks in the schools should be used to disseminate new ideas among faculties.
9. To check teachers' perceptions, continuous feedback should be built into inservice program procedures.
10. Ample provision should be made for using small group processes as well as formal education settings for inservice education.

5. The Change Process

Change in education has largely been a random process. Very little educational change has been planned. Until very recently, moreover, almost all the limited research on change has been directed to the content and not the processes of change. Within the past five years, however, interest in the study of the change process in education has greatly increased.

What is meant by change? Robert Chin (1964) identified five levels or definitions of change: (1) substitution, (2) alteration, (3) perturbations and variations, (4) restructuring, and (5) value orientation change. Different principles of change may apply at each level. Thus substitution such as that required by changing a time schedule may or may not create much distrubance of the system as a whole, but changing value orientations is likely to be a long-term process that deeply affects every aspect of the system.

Change should be differentiated from innovation. Whereas innovation involves change, change does not necessarily involve innovation. Herbert Thelen (1960), for example, outlined four procedures used to achieve educational change: bearing down more heavily with more of the same; tinkering, especially accidentally; experimentation; and educating everyone concerned with education. Of these he suggested that the first three had failed. Only the fourth that would involve all of society would represent true innovation.

Change strategies involve different stages to accomplish the adoption of an innovation. As yet there is little agreement on terminology in this field and no common model. David L. Clark (1964) proposed a model with five steps: (1) research to advance knowledge, (2) development to apply knowledge, and (3) dissemination to distribute knowledge, (4) demonstration to build conviction, and (5) implementation to facilitate action. Clark and Egon Guba (1965) suggested four categories: (1) research, (2) development, (3) diffusion, and (4) adoption. Whatever model is used, it is clear that different stages require different roles and involve different social agencies.

Research and Development

Research and Development ordinarily involve agencies outside the schools. "Effective design seems to require protected, enriched, autonomous environments." (Miles, 1964, p. 225.) Professional discipline groups or interdisciplinary associations frequently seem able with the aid of special funding to provide such an environment for conceptualization and invention. Thus research advances knowledge and provides the basis for innovation.

Development, in turn, seeks to apply knowledge and produce innovation. Harold Jung and Ronald Lippitt (1966) pointed out that development means: (1) diagnosing the priority needs for change, (2) finding the existing innovations that provide alternatives for action toward change, and (3) locating the resources available for working toward that change. The field of development has been described as "one of the most critical, yet overlooked, fields of education." (Blanke, 1966, p. 20.)

Diffusion and Adoption

The areas of diffusion and adoption, however, are those which most directly involve the schools for they seek to inform about, promote and finally incorporate innovation. Diffusion studies are concerned with the "(1) acceptance, (2) over time, (3) of some specific item, idea, or practice, (4) by individuals, groups, or other adopting units linked, (5) to specific channels of communication, (6) to a social structure, and (7) to a given system of values or cultures." (Katz, Levin, and Hamilton, 1963).

Much research on diffusion is available from related disciplines. Everett M. Rogers (1962), for example, in his Diffusion of Innovations, listed the major conclusions about the diffusion of innovations based on a summary of findings of 506 research studies from anthropology, sociology, education, industrial sociology, medical sociology, and other fields. It is interesting to note that the bodies of knowledge which developed quite independently in each of these disciplines have only recently been brought together. Few all-inclusive models of the factors important to diffusion have been attempted (Lionberger, 1964). Nor are any of the more limited models of demonstrated significance in predicting behavior. The multiplicity and complexity of the factors involved make the development of such a model extremely difficult. Each discipline has its own jargon which may discourage the interdisciplinary use of ideas. Furthermore, data from one discipline may not be transferable to another. Communication and authority patterns in agriculture, for instance, are very different from those in education. Nevertheless, some generalizations may be of use.

G. N. Mackensie (1964) found two important similarities between the change process in agriculture and in education: a direct relationship between the innovator's orientation outside his social system and his ability to change and a direct relationship between innovativeness and financial resources.

Herbert F. Lionberger (1964) suggested some implications from research in rural sociology that may have action implications for changes in education:

1. The mass media should be used to make people generally aware of new ideas in the field of education and to create an interest in them.
2. Personal attention should be directed to individuals to whom others look for advice about school and community matters.
3. Sufficient time should be allowed for adoptions to occur.
4. The successful trial of an innovation should be ensured.
5. Limited resources to achieve adoptions probably can better be directed to securing a few successful trials by those willing to favorably consider an innovation than to using resources to help all systems in a nearly equal matter.
6. The nature of the "ideal" adoption pattern should be considered in assessing the impact of efforts to implement the adoption of innovations by school systems. (pp. 136-138.)

Certain properties of an innovation seem to contribute to its acceptance or rejection. One of these is cost. If the cost is very high, the innovation may be slow to be adopted. If the innovation can be adopted on a step-by-step basis, the cost problem may be minimized.

Technological innovations are usually adjudged to be easier to adopt than non-technological, but factors such as cost and conveniences also influence their adoption. The availability of related materials makes adoption more likely. Complete unites of curriculum guides and materials such as those designed by the Physical Science Study Committee aid teacher adoption.

Potential users of an innovation appear more likely to be interested if they see the innovation as particularly related to the needs of their situation. Furthermore, they may be influenced by peers who have actually tried out an innovation. Peer influence, however, is reported in one study on the teaching of reading to be of less importance than the impact of materials, inservice education, and preservice education (Barton and Wilder, 1964). Favorable decisions are more likely to be made if the evaluator can see a given innovation in operation elsewhere rather than only reading or hearing reports of it.

Especially during the initial stages of introducing an innovation, users need support and help. The introduction, for example, of prepackaged curricula cannot be expected to be successful unless teachers receive adequate training and followup supervision in their use.

Models for Change

(Some models, for effecting change, would appear more promising than others. Maurice J. Eash (1967) analyzed three models for the implementation of research findings.) The first model, that of displacement, forced teachers and students to use a replacement for an old material or method. Teachers, for example, might be told that they were to use a new textbook or a new curriculum guide. Such an approach was likely to result in hostility on the part of the teachers, inconsistent use of the new material or method, and rejection of the replacement.

(A second model, the authority model, emphasized the use of published findings. University researchers were asked to draw up a list of research-based teaching practices and to meet with teachers to give them the research evidence for these practices. The results indicated that teachers had difficulty in translating the information given them to their classroom settings.) Furthermore, this approach tended to emphasize the inadequacies of the teachers and to heighten the friction between them and the researchers. Nor was there any reward to the teachers in adopting the new findings. In many instances, therefore, the result was teacher resistance to adopting the new practice.

(The third, that of co-action, emphasized a two-way process in which teachers were involved in using their classes as the bases for hypotheses making and testing. Of the three models tested this method resulted in the most likelihood of teacher acceptance of new practices.)

Designs for Inservice Education (Bessent *et al.*, 1967) presents three possible procedures which emphasize the need for inservice programs that bring about instructional improvement in the schools. They include: (1) the laboratory approach, (2) the classroom experience model, and (3) the teaching demonstration model. In the laboratory approach a group of learners is placed in a situation usually having some of the elements of reality simulation, in which the learners' behavior in dealing with the problem at hand produces data that are organized and fed back to the group to form a basis for analysis and interpretation by the group. (p. 14) The classroom experience model provides simulation of direct experiences with students, usually directed toward helping teachers implement a curriculum innovation. The teaching demonstration model uses a regular classroom teacher as the demonstrator with his regular students. A group of observers facilitates systematic observation and analysis. The emphasis here is on using a situation that is as "normal" as possible.

Implications for Inservice Education:

1. In introducing an innovation into a school or school system, it may be better to focus inservice education on interested teachers who are more likely to make it successful rather than on all teachers equally.

2. If cost is a factor in introducing an innovation, plans can perhaps be laid to adopt it on a step-by-step basis to be accompanied by appropriate inservice education.

3. If at all possible, teachers should have all available materials related to a given innovation such as teacher's guides, student workbooks, audio visual aids, and programed instruction.

4. Teachers in inservice programs should be encouraged to visit classrooms where innovations are being tried.

5. Teachers need not only adequate pre-training in the use of innovations such as new curricula or materials but follow-up support and help.

6. Teachers may be more likely to accept new practices if they see themselves as involved in a two-way process of aiding in hypothesis making and testing as well as receiving innovations.

RECENT INNOVATIONS THAT AID EDUCATORS IN INSERVICE EDUCATION PRACTICES

A Systems Approach

Educators are increasingly interested in a systems approach to educational change rather than "piecemeal tinkering" (Bishop, 1967). Change from this point of view requires looking at the whole system. Any alteration in one part of the systems affects other parts.

> An adequate systems design necessitates a critical review of the impact and conjunction of objectives, pupil needs, and capacities, instructional possibilities, organization, resources and evaluation. Such consequences require persons.... who know that any part of instruction is systemic, that every decision, and every classroom act touches the web of all experience that is the schools' responsibility. (*Ibid*., p. 676.)

From this perspective inservice education can be viewed as a system in which innovation becomes a subsystem. To understand the change process, then, requires consideration of the total systems design.

A possible application of the systems concept to inservice education programs is illustrated by the Flow Chart in Figure 1. The first step in this procedure is to gather the total input data concerning broad objectives of the school, its setting, and the characteristics of the particular group of staff and to state them in such a way as to define clearly specific terminal behaviors as immediate goals. There follows the determination of appropriate teaching strategies, content, and media and the actual tryout of the program. Corollary to these procedures is the development of a rationale for evaluation and of evaluation instruments that will enable flaws to be located and corrected so that the program may be refined for further use.

Objectives

In any program of this kind it becomes essential that objectives be stated in behavioral terms that will make evaluation possible. The publication of the *Taxonomy of Educational Objectives: The Classification of Educational Goals* Handbook I: Cognitive Domain (Bloom, 1956) and Handbook II: Affective Domain (Krathwohl, Bloom, and Masia, 1956) has contributed greatly to such behavioral statements. One model for the preparation of objectives is found in Robert F. Mager (1962), *Preparing Objectives for Programmed Instruction*. An objective, stated Mager, should be written and rewritten until it answers the question: "What is the teacher doing when she demonstrates that she has achieved the objective?" The object is to move from the use of words open to many interpretations to those open to fewer interpretations. For example,

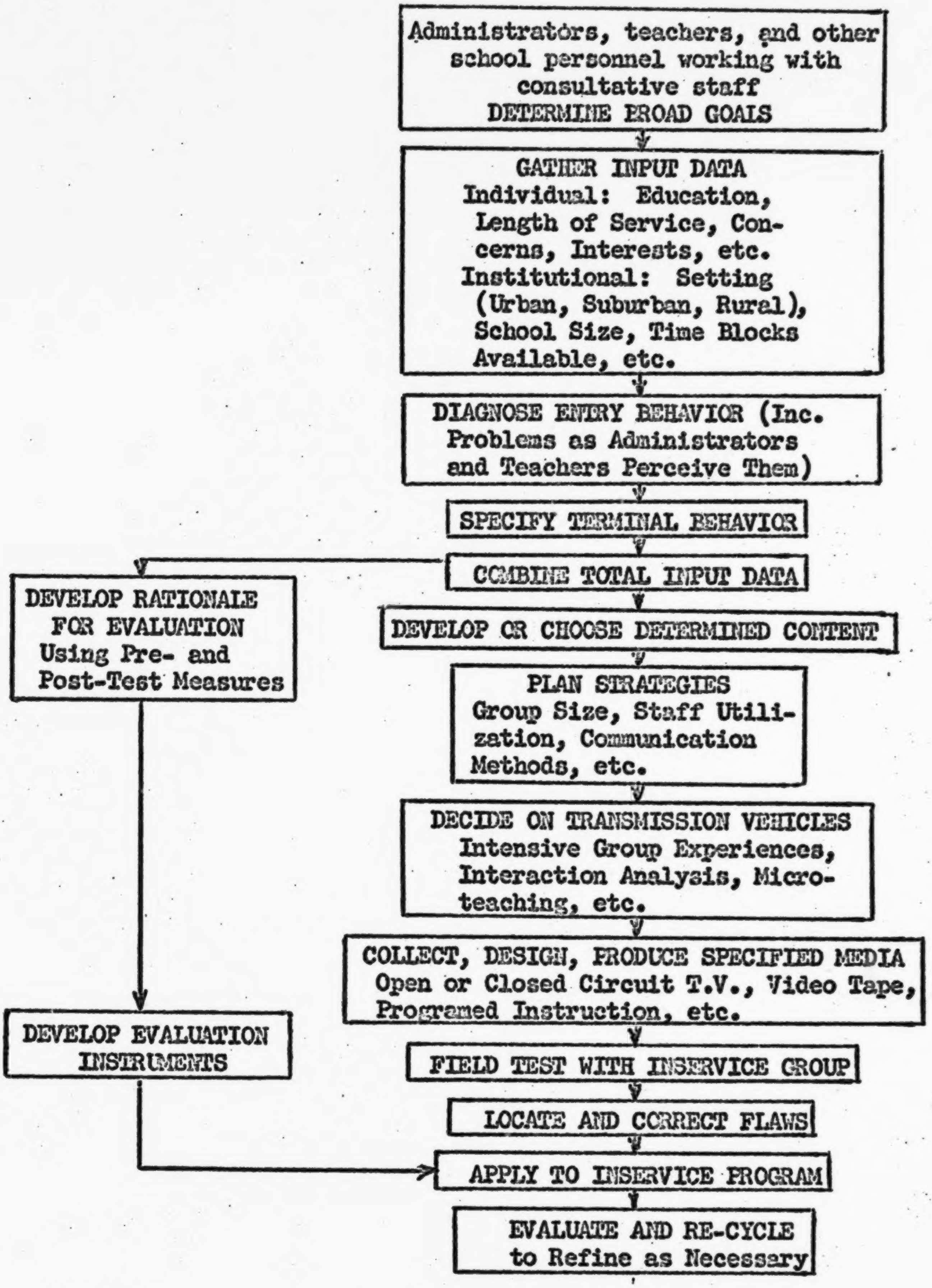

Administrators, teachers, and other school personnel working with consultative staff DETERMINE BROAD GOALS
GATHER INPUT DATA
Individual: Education, Length of Service, Concerns, Interests, etc.
Institutional: Setting (Urban, Suburban, Rural), School Size, Time Blocks Available, etc.
DIAGNOSE ENTRY BEHAVIOR (Inc. Problems as Administrators and Teachers Perceive Them)
SPECIFY TERMINAL BEHAVIOR
COMBINE TOTAL INPUT DATA
DEVELOP RATIONALE FOR EVALUATION Using Pre- and Post-Test Measures
DEVELOP OR CHOOSE DETERMINED CONTENT
PLAN STRATEGIES
Group Size, Staff Utilization, Communication Methods, etc.
DECIDE ON TRANSMISSION VEHICLES
Intensive Group Experiences, Interaction Analysis, Microteaching, etc.
COLLECT, DESIGN, PRODUCE SPECIFIED MEDIA
Open or Closed Circuit T.V., Video Tape, Programed Instruction, etc.
DEVELOP EVALUATION INSTRUMENTS
FIELD TEST WITH INSERVICE GROUP
LOCATE AND CORRECT FLAWS
APPLY TO INSERVICE PROGRAM
EVALUATE AND RE-CYCLE to Refine as Necessary

Figure 1 A FLOW CHART OF PROCEDURES FOR IMPLEMENTATION OF INSERVICE PROGRAMS

"to understand Hoffman's technique of leadership," is far less specific than "to apply Hoffman's technique of leadership in three simulated classroom situations." Such clear-cut goals for inservice education might well serve the double purpose not only of defining them for these programs but also of helping the participants to learn how to transform their own instructional goals into performance statements.

Robert Glaser (1964) pointed up the necessity for stating clearly the objectives of inservice programs. Such clear statement fosters proper design and relevant criteria of performance so that programs can be appropriately evaluated.

Approaches

Teachers differ in their backgrounds of training and experience and in the problems they wish to study. Different approaches to inservice education are necessary for teachers with different needs. Provisional teachers may need to emphasize individual self-improvement; curriculum problems may best be dealt with by group examination. Clearly there is no one best way to effect competence for all teachers (Maucker and Pentergraft, 1957).

As educators plan inservice education programs, they will want to be aware of recent innovations in inservice practices. We explore here:

(1) New patterns of inservice practices

(2) New instructional media

(3) New uses of staff in inservice education

(4) New approaches to scheduling and finance

(5) New cooperative approaches

New Patterns of Inservice Practices

Many of the new patterns of inservice practices are designed to foster what Carl R. Rogers (1967) has called "self-directed change." They place an emphasis on process rather than content. Their goal is to help participants be more open and flexible, more able to cope with change. They seek to focus not on teaching but on self-directed learning.

Use of the Intensive Group Experience

Inservice education programs are increasingly making use of some form of intensive group experience, variously called sensitivity training, T (Training)- Group, laboratory method, encounter group, and workshop. The group consisting of ten to fifteen persons and a group leader, meets in an informal, relatively unstructured atmosphere, frequently in a residential setting.

> Individuals come to know themselves and each other more fully than is possible in the usual social or working relationships; the climate of openness, risk-taking, and honesty generates trust, which enables the person to recognize and change self-defeating attitudes, test out and adopt more innovative and constructive behaviors, and subsequently to relate more adequately and effectively to others in his everyday life situations. (*Ibid*., p. 718)

Workshops of this kind have been widely used with leaders in industry, government, health, and religion. Frequently they have been held under the auspices of the National Training Laboratories which began in Bethel, Maine, in 1947. Recently educators have begun to make use of this kind of experience in various ways: with groups of administrators, teachers, and student-faculty groups. (Bradford, Gibb, and Benne, 1964)

Most recently Rogers (1967) has proposed that the intensive group experience be used in a coherent approach to change in a total public educational system. Under his plan the program would be initiated by an intensive group experience for administrators and board members for one week. There would follow similar experiences for teachers, for class units, and, to the extent possible, for parents. After such experiences with peer groups, a "vertical group" of two board members, two administrators, two teachers, two students, and two parents would be attempted. All this program would be part of a plan for continuing change and would be subject to continuous assessment.

In one program utilizing the faculty and pupils of an entire elementary school as an experimental group and comparing their behavior with two control groups, Francis X. Vogel (1967) attempted to evaluate the effects of T-Group training on teachers in a nongraded form of school organization. For defined groups of teachers, the T-Group experience appeared effective in furthering teacher-pupil relationships and maintaining a given type of classroom climate.

In another experiment (Joyce, 1967) teacher trainees received a three-part sensitivity training. In the first part, the goal was discrimination of interpersonal sensitivity; in the second, self-discrimination; and in the third, further feedback and reinforcement of progress. Motion pictures and tape recorders were used to give feedback from lessons taught to learners who role-played various kinds of student behavior. There were substantial effects on the question-asking behavior of the teacher trainees and on the rapport-building aspects of their teaching styles.

Richard Schmuck (1967) reported a combination of sensitivity training with the use of basic research and a task-group orientation for a group of teachers in an inservice program designed to improve classroom peer relations. The teachers were 4th, 5th, and 6th grade teachers in Detroit who spent an initial block of four weeks together in July and then held semi-monthly follow-up meetings from September through December. The first week was spent in sensitivity training. The second week focused on research on classroom peer groups and methods of diagnosing classroom learning environments. In the third week the sensitivity groups became task groups working out possible practices through role-playing. The final week emphasized plans for implementing practices back home. Each teacher tape-recorded a final conference with the instructor to be used as the basis for later follow-up during the fall semester. The results showed that participating teachers developed group cohesiveness, that more elaborate plans were made for improving peer relationships than previously, that classroom communications channels were opened, and that students developed more positive attitudes than formerly toward teachers, learning, and their classmates.

Use of Feedback

If teachers are to gain more understanding of their behavior in the classroom, they must have ways of getting objective feedback. Feedback may come from others, such as supervisors, administrators, other teachers, or the pupils themselves or from self-evaluation. We discuss new uses of staff in inservice education in a later section. Here we consider briefly an instance of feedback from pupils and the use of interaction analysis as feedback.

From Pupils. That teachers can make effective use of feedback from pupils was demonstrated with an experimental group of 6th grade teachers who received information as to how their pupils described their teaching behavior and how the pupils viewed the ideal teacher. They changed their behavior more than a control group without such information. (Gage, Runkel, Chatterlee, 1960.)

From Interaction Analysis. A variety of methods have been devised for analyzing teacher-pupil interaction in the classroom (Amidon and Hough, 1967), the best known of which is probably that of Ned F. Flanders (Amidon and Flanders, 1963). The Flanders system is concerned only with verbal behavior. It categorizes teacher talk, student talk, and silence or confusion. All teacher statements are classified as either indirect or direct. Indirect influence includes: (1) accepts feeling, (2) praises or encourages, (3) accepts or uses ideas of students, (4) asks questions. Direct influence includes: (5) lectures, (6) gives directions, (7) criticizes or justifies authority. Student talk is classified as (8) student talk-response or (9) student talk-initiation. Category 10 is reserved for silence or confusion.

This system can be used by trained observers or by teachers themselves. They can observe others teach or can categorize a tape recording of their own teaching. Every three seconds the observer records by number the category of the behavior he has observed. These data are then entered in sequence into a matrix of 10-row by 10-column table. From the matrix it is then possible to determine general and specific aspects of the classroom interaction which can be used as feedback for teachers regarding their verbal teaching behavior.

Flanders (1963a) and others have described the use of this technique in inservice training projects. Two programs for junior high teachers enabled teachers to secure feedback from a staff observer, a team of colleagues, or their own tape recordings. All spent a minimum of 30 hours in formal training sessions. The two programs differed in the role taken by the inservice training instructor. It was hypothesized that a teacher would gain most when his own style of teaching, direct or indirect, before training was compatible with that of the training instructor. The purpose of the training was to increase the flexibility of teacher influence and the use of teacher behaviors which support pupil participation. The results showed that consistency between the teacher's style of teaching and the methods used will influence the progress of the teacher in training. The teachers who were most active in the program were most likely to make changes in line with the objectives of the program.

Storlie (1963) reported a similar inservice program designed for teachers in two junior high schools and one senior high school in a suburb of Minneapolis. He again tested the hypothesis that teachers would make greater changes in their behavior if their initial teaching style was compatible with that of their instructor. As predicted, those with an indirect style profited most from a course where the instructor was more indirect; those with a direct style from one where he was more direct. Less gain was shown by teachers with a direct style being taught by an indirect instructor, and least by those with an indirect style being taught by a direct instructor.

Student teachers taught interaction analysis have also been shown to change their behavior and to change it even more when placed with cooperating teachers who have been similarly trained. In one controlled study (Amidon, Furst, and Mickelson, 1967) the trained student teachers were more indirect, accepted more pupil ideas, directed less, and had more pupil initiated talk than other groups not so trained.

From Microteaching. Videotape provides another significant means of feedback to teachers. It can be used to record and playback the teacher's own teaching, enabling him to analyze his teaching, to have others critique it with him, or to compare it with that of model teachers.

Most commonly the student teacher or teacher presents a five- to ten-minute lesson before five or six students. The lesson is immediately critiqued, sometimes with students' as well as supervisors' evaluations. The lesson plan is then modified and repeated in its revised form with a similar group. The retaught lesson is also critiqued. Videotapes are made of each lesson and provide immediate feedback of the teaching and reteaching. Usually very specific skills, such as asking classroom questions, are to be mastered, although wider areas of teaching competence, such as procedures for conducting an effective planning session for team teaching, can be attempted.

Microteaching was initially developed in 1963 with highly selected secondary intern teaching candidates at Stanford University, but it has since proved effective with other preservice intern teachers at Stanford University and San Jose State College. Experienced teachers, supervisors, and university faculty members have also experimented with it.

The Far West Laboratory for Educational Research and Development has modified microteaching to provide a teacher-directed inservice education program called a minicourse. This program enables a teacher to view his own teaching and compare it with that of model teachers using laboratory-prepared tapes. No supervisors are involved in this approach, but viewing by a teaching partner is requested.

In field testing undertaken by the Laboratory, the aim is to help teachers develop skills in leadership of classroom discussion. Participating teachers are to be released by their school districts one hour per school day for a three-week period. Their discussions with their classes will be videotaped before and after they view the laboratory-prepared tapes. If the course proves effective, that is, if significant improvement in questioning skills is observed, the prepared tapes will be converted to 8mm or 16mm films. These films along with handbooks and self-evaluation materials will be distributed on request at minimal or no cost to school districts or colleges. If the prototype proves successful, other minicourses will be developed in such fields as mastery of new curricula, new school organizational patterns, or instruction for atypical students.

For references on microteaching, see Allen and Fortune (1965), Allen and Young (1966), Baird *et al.* (n.d.), Kallenbach (1966 and 1967), McDonald (1966), and Stanford Teacher Education Program (1967).

Use of New Approaches to the Processes of Thinking

A number of studies of cognitive processes are changing old ideas about the teaching of thinking and the role of the teacher. If teachers are to get away from old patterns of requiring students to memorize obsolescent facts for which the students have no organizing conceptual schemes, they must be helped to develop new strategies for teaching.

One approach to such inservice education is that of Hilda Taba (1965) who pointed out the need for reducing the time gap between research and curriculum innovations and practice by a closer contact between researchers and school personnel. One means is through inservice education which would seek to reverse habits and techniques connected with the old textbook teaching. It would help teachers to become knowledgeable about the process of thinking: how it develops, what the processes are, and what it takes to nurture them.

Teams of teachers and supervisors from school districts introducing these new methods of teaching have been trained in special workshops designed to prepare them not only to return to their own classrooms but also to in turn teach other teachers in their districts. Part of the training includes the use of videotape recordings of classroom discussions which are then coded and analyzed according to the levels of thinking: describing, inferring, and generalizing. Teachers are then helped to learn what kinds of question sequences result in raising the levels of their students' thinking. Concomitant with the development of new processes is the development of new curricula. So far special attention has been given to new social studies programs for the elementary schools. Follow-up is provided by trained supervisors.

Use of Action Research

An older approach to help inservice teachers improve their practices is that of action research. It involves individual teachers or groups of teachers in using research techniques to analyze specific problems they face. Teachers using action research would follow the scientific method of formulating hypotheses, gathering data, analyzing and summarizing the data, drawing conclusions, and arriving at probable hypotheses for future inquiry. Stephen M. Corey (1953) suggested six conditions favorable to such research: (1) freedom to admit limitations, (2) opportunities to invent, (3) encouragement to "try it out," (4) improvement in methods of group work, (5) concern with obtaining evidence, and (6) time and resources for experimentation.

That such an approach is not more widely used today is probably due to the difficulties inherent in the teacher becoming researcher. Abraham Shumsky (1958) listed some common difficulties teachers have in implementing action hypotheses: (1) lack of a clear hypothesis, (2) the fact that the data do not test the hypothesis, (3) lack of an anticipated outcome, (4) difficulty with statistics, and (5) analysis of unstructured data. To this list could no doubt be added the lack of favorable conditions for research in terms of the school setting and the job demands of the teacher.

New Instructional Media

Many points of view exist about the role of media. Research in this area is voluminous but not conclusive. What is needed is more carefully designed research.

Educational technologists frequently call for the use of a systems approach in introducing and using new media. Francis Keppel (1966, p. 119) pointed out that "equipment must be linked to curricula, teaching methods to school organizations, and all four to the preparation of teachers and to measures of the results in what pupils learn."

Richard I. Miller (1967) outlined eight components of a systems analysis that should be considered by a school system planning to introduce new technology:

1. Capability of the hardware. Actually such an appraisal is difficult because of the lack of independent standards for judgment. In a few instances overzealous hardware peddlers have tried to realize a quick profit at the expense of school systems. They have thus undermined the more responsible approach taken by the majority of companies in this field.

2. Capability of the soft ware (program). As Hilda Taba (1967) warned: "There is danger of harnessing million-dollar gadgets to ten-cent ideas." This problem remains critical.

3. Nature of the community. Communities, as indicated earlier, vary in their receptivity to new technology. Furthermore, some media may be suitable to one situation and not to another.

4. Individual difference considerations. Technological aids such as educational television may be designed for group presentation without contributing to a school's plan for individualization.

5. Teacher factors. Teachers, as discussed earlier, may resist the introduction of new technology. They may, because of inadequate teacher education, not be adequately informed about technology. They may feel that the use of new media will add an extra burden of time and effort. To offset these problems, teachers must be involved in program implementation. Furthermore, teachers need retooling to use the new technology effectively.

6. Curricular coordination. Curriculum specialists must also be involved to insure that educational technology is geared to the continuity, scope, and sequence of the curriculum.

7. The nature of the subject matter. With our present state of development some subjects and some aspects of these subjects are more appropriate to the application of educational technology than others.

8. Evaluation procedures. As is the case with the total instructional program, plans for the evaluation of educational technology should be carefully designed so that adequate feedback is available.

Although points of view differ about the role of media, there seems to be agreement that they are not just channels for communication and information. They can act as "notifying, informing, legitimating, and re-enforcing" agents. They can arouse interest and sensitize to change. They are specially suited to large groups and self-instructional processes.

Thus media can strengthen and accelerate the diffusion process. What is needed, however, is support for their effective use, support that involves adequate time and effort for implementation. With such support they can help to develop the understanding that leads to action.

Very little research exists in the use of media in inservice education. In many cases articles which discuss inservice programs utilizing media are simple descriptions of procedures, program content, and equipment without adequate evaluation or summaries of results. Lesser and Schueler (1966) in "New Media Research in Teacher Education" list nine points which accurately describe the status of present media research in teacher education. Many of these points are pertinent to the research in media utilization in inservice education. The research in this area: (1) is scarce and recent, (2) lacks systematic theory, (3) is technique-oriented rather than problem-oriented, (4) consists of a profusion of testimonials, and (5) contains no replication. Although there are isolated instances of creative and valuable utilization of media in inservice education, there seems to be little dissemination of ideas or techniques.

Television

Live television and videotape (via both open and closed circuits) are the two forms of media which seem to offer the greatest potential for use in inservice programs. Television is a medium which incorporates all other audiovisual materials into a visual and auditory presentation, and television programs can be developed to satisfy most of the educational needs of teachers.

Numerous research studies have established the fact that students do learn effectively by televised instruction. Although these studies did not involve teachers as learners, the data are pertinent to inservice education since they establish that television is an efficient tool of instruction.

Television can augment any inservice education program. To be the most effective, however, television presentations need to be carefully planned, and practices which lead to optimum learning need to be considered. Feedback is always a problem where television is used for instruction. Administrators should prepare for programs and provide discussion leaders, study guides, and evaluations. Television personnel should cooperate closely with school personnel. The length of programs and the timing of presentation need careful control. Videotapes of demonstration lessons and techniques should reflect the needs of the teachers to whom they will be shown. Unless these points are kept in mind, television can lose much of its effectiveness and run the risk of becoming an expensive gadget.

Open Circuit Television. Open circuit or broadcast television offers unlimited potential in the area of inservice education of teachers. Many television series and telecourses have been produced in the area of inservice education. These are available, however, only in areas which have an educational television channel or in areas which can secure the cooperation of local television stations.

Although open circuit television can cross district boundaries to reach many teachers, it cannot meet individual and specific needs. A series on broadcast television must try to attain a "happy medium" in content and technique. If, therefore, a school district intends to use open circuit programs as part of its inservice education, it must exercise sound judgment when selecting the broadcasts to be viewed. All inservice educational television programs are not suitable for every teacher group.

Videotapes which are transmitted by television stations are more expensive to produce since they must be of broadcast quality. Inservice programs of this type are limited, and those that are available are very expensive to rent or to buy. A county library of locally produced tapes could possibly alleviate this situation. Timing of broadcasts, however, creates scheduling difficulties when a television channel must transmit to a large area. Here again open circuit television fails to meet individual needs of teachers.

For references on open circuit television see Green (1961), Smith (1965), and Wittich _et al_. (1963).

Implications of Open Circuit Television for Inservice Education:

(1) Open circuit television can be a useful resource to inservice education. A cooperating station which will broadcast appropriate programs, however, must be available.

(2) The principal advantages of the utilization of open circuit television are economy and convenience. A program or series which is offered on broadcast television can reach a large audience at school or at home. Many districts can combine efforts to produce an outstanding presentation which will allow each teacher to receive information from the best experts available. Since telelessons can be a joint effort, they should be well planned and effectively produced with assistance from graphic artists, technical help, and specialized personnel.

(3) Many telecourses can be presented for college credit with cooperating colleges or universities. This, of course, is a great advantage to teachers who are located in remote areas.

Closed Circuit Television. The body of empirical data regarding the effectiveness of television in teacher education is concentrated primarily in two areas:

(1) the utilization of CCTV for observation of actual classroom situations, and

(2) the utilization of videotape for evaluating student teacher performances (microteaching).

In both cases the results indicate that television is indeed most effective. Student teachers who do their classroom observations by CCTV gain as much from this experience as those who are actually in the classroom for on-the-spot observations. (The ideal method of observation is probably a combination of the two methods.) The research from Stanford University on their Microteaching Project (Allen and Fortune, 1965) indicates that intern teachers who had their performances recorded on videotape and then evaluated were more successful as teachers than those who did not have this experience.

The Far West Laboratory for Educational Research and Development, as discussed earlier, is undertaking a series of microteaching programs called minicourses which are designed to assist teachers in developing new teaching skills and in learning about new curricula and organizational patterns.

For references on closed circuit television, see Rogers (1959-62), Scher (1966), Snively (1960), and Thompson (1960).

Videotape. The utilization of videotape is a recent development in education. Videotape recorders and playback equipment are now manufactured in models which are economical enough for schools to purchase and use. The availability of videotape for inservice education will allow television to become a much more flexible tool which can more easily and effectively meet needs of individual teachers and individual school districts.

Implications for CCTV and Videotape for Inservice Education:

(1) The use of videotape can allow teachers to see a master teacher in action. Teachers can have the privilege of inter-classroom visitations without disturbing the classroom situation.

(2) With the advent of videotape recorders and playback equipment, a comparison of a classroom teacher's performance with a model teacher's performance can be made at the teacher's convenience.

(3) Demonstrations of new teaching techniques, classroom management and organization, and uses of curriculum materials can be effectively presented by videotape for faculty meetings, workshops, and administrative planning sessions.

(4) Videotape is valuable for evaluation of teachers' performances. A teacher can more readily evaluate his teaching skills as he views himself on videotape. Videotape could also be of great help to administrators in the evaluation of teachers.

Films and Kinescopes

Kinescopes and films can be made of key lessons or of master teachers' performances to be used for workshops and faculty meetings as an instructional tool or as a point for discussion. Kinescope recordings can record classroom situations which can be used for teacher observation.

The use of kinescopes and videotape is substantially the same. Perhaps the principal advantages of kinescope recordings over videotape are the ease of distribution and the availability of necessary playback equipment. All schools have access to 16mm movie projectors, and most teachers can operate this type of equipment.

Since films can be shown with ease and without additional expense, they can be viewed conveniently by teacher groups of any size. Furthermore, 16mm projectors require no technical personnel for operation.

For references on films and kinescopes see Nardelli (1960), Patrick and Davison (1963), and Van Horn (n.d.).

Implications of Films for Inservice Education:

(1) Films which are used in inservice education should be selected with concern for specific needs of the teachers who are to view them.

(2) When films are used, provision must be made for discussion and evaluation. Films are another resource for inservice education and not a complete program.

Programed Instruction

An instructional material which is developed into a programed text has the advantage of allowing the student to use it at his convenience and to learn it at his own rate. The production and use of audiovisual materials seem to be the subject in inservice education which most easily lends itself to this treatment. A series of programed texts can be deposited in the district audiovisual library, and teachers can make use of this material when time allows them to do so.

For references on programed instruction, see Freedman (1964), Fry *et al*. (n.d.), and Knirk (1964).

Implications for Inservice Education:

(1) Successful curricula of programmed instruction require carefully produced programed texts which must be in sufficient quantity to be useful.

(2) A central location for programed materials should be available which is convenient for participating personnel and which has the necessary equipment.

(3) Programed materials are time-consuming to develop and may be rather cumbersome for school districts to use in their inservice programs.

Computers

Information retrieval systems have high potential as sources of "instant" information for teachers. Teachers could quickly be updated on subject matter and could be supplied with information about new curriculum developments without time-consuming research. This type of a system, however, is very expensive for individual districts to purchase. A county-wide system (such as California is developing) would be the most practical. A method for the utilization of such a system by teachers will have to evolve if computers are to assist in meeting the continuing educational needs of individuals.

For references on computers, see Bushnell (1963), Harnack (1967), and Ulcek (1966).

Filmstrips, Slide Series, and Audio Tape

Filmstrips, slide series, and audio tape can be added resources for programs of inservice education. All these materials have the advantage of ease of display and low cost. Filmstrips and sequences of slides are relatively simple to produce and could be developed for very specific instructional purposes.

For references on filmstrips, slides, and audio tape, see Flanders (1963), Lorenz and Kuipers (1964), and Jesser (1966).

Implications for Inservice Education:

(1) Methods for the use of information retrieval systems by teachers should be developed in cooperation with county-wide or state-wide systems.

(2) The potential of all the various media for use in inservice education should be explored.

New Uses of Staff in Inservice Education

The Teacher

Each-One-Teach-One Approach. This use of teachers who have received special training to train, in turn, other teachers has already been briefly described in relation to Hilda Taba's (1965) inservice education program for instructing teachers in new ways to develop cognitive processes. With proper preparation this approach could no doubt be extended in other directions. The advantage, of course, lies in the ripple effect that enables an inservice program that begins with a few teachers to reach outward to many. The disadvantage may be that in such a transmission both know-how and interest become diluted. Thus the need arises for careful instruction in ways of teaching other teachers and adequate supervision and follow-up.

Cooperative Teaching Approach. Cooperative teaching usually means a plan whereby two or more teachers work with the same group of students. When the plan becomes more formalized and involves a team of teachers, often ranked in some hierarchical order, the term team teaching is frequently used. The team commonly includes a master teacher, one or two other teachers, one or two student teachers or interns, one or two teaching aides, and a clerk.

Any form of cooperative or team teaching opens up new possibilities for inservice education. The simplest form of cooperation between two teachers makes possible interchange of ideas and techniques. The more complex patterns of team teaching increase the possibilities of inservice education occurring. The team leader is customarily an experienced master teacher who is in an excellent position to assist other members of his team. Senior teachers may have special competencies in given subject areas or in given aspects of a particular subject. They, too, are in a special position to aid in curriculum development. All the teachers are free, of course, to cooperate in planning, implementing, and evaluating the instructional program.

Three patterns of team teaching have been identified (Singer, 1964): (1) the single discipline team, (2) the interdisciplinary team, and (3) the school-within-a-school team. The single discipline team, for example, may include all the physical science teachers within a school; the interdisciplinary team teachers from two or more disciplines such as science and mathematics. The school-within-a-school team has teachers who can teach all the subjects offered in the school curriculum. In this pattern a school of 800 students might be divided into four teaching teams, each serving 200. All these patterns would appear to offer special opportunities for interaction that could promote effective inservice education.

The Principal

That the principal plays a key role in effecting educational change in general and inservice education in particular has already been indicated. At the elementary level, for example, curriculum change is more likely to occur if principals exert democratic leadership with faculties who are ready for change (Wiles and Grobman, 1958). Similarly at the high school level, curriculum change has also been shown to be related to the democratic leadership style of the principal.

As in other areas of administration, it can be expected that if management effectively communicates the need for change and stimulates group participation in planning, there is significantly less resistance to change (Coch and French, 1948). What seems important, then, is that principals be helped to play the kind of leadership role that will stimulate faculty participation in change.

Principals' roles are changing and may be expected to change even more as new patterns of school organization such as team teaching become more widespread. Like teachers, then, administrators need effective inservice education; and some inservice education certainly should provide opportunities for vertical groups of board members, administrators, teachers, and sometimes parents and students to work together.

The Supervisor

Supervisors' roles are also changing. They are increasingly being asked to give new kinds of help to teachers. They must, for example, be prepared to help teachers in such areas as interaction analysis. That their own style of teaching is likely to be imitated was shown by a recent study of elementary and junior high teachers by E. Leland Brode (1967). Teachers were asked to express their preference for various examples of "direct" and "indirect" (as defined by Flanders) teacher responses in a series of tape-recorded classroom episodes. Prior to listening to the tapes the teachers had been assigned to two different groups which simulated certain supervisor-teacher relationships. In one group the supervisor's own style of verbal interaction was predominantly "direct" and in the other, "indirect." The teachers in each group expressed significantly greater preference for classroom behavior similar to that displayed by the supervisor with the respective groups.

The Clinical Professor

The use of the clinical professor as an effective intermediary between the educational program of the university or college and that of the public school has been recommended by James B. Conant (1963) and others. Such an arrangement makes it possible for a professor to teach classes in the public school and to become involved in the school's total educational program. In turn he brings to the school the resources of the university and to the university the insights gained from direct experiences in the school.

Walter J. Blanchard and Thomas B. Goodkind (1967) described one such program in which the clinical professor was teaching two elementary social studies classes a day and participating in the school as curriculum leader and resource person. He gave direct assistance to staff members (including beginning teachers) through inservice programs, informal discussion, and the provision of resources. New curriculum materials and instructional techniques were developed, field tested, and demonstrated. The research indicated that teachers working with the clinical professor had shown attitudinal changes toward instructional practices, university resources, and experimentation with new techniques.

The Consultant

The use of consultants in inservice education is not new, but new insights are developing as to their most effective contribution. The value of their services, according to John I. Goodlad (1957) varies with the extent of their participation, the point at which their services are employed, and the amount of knowledge based on experience which they have.

A regularly employed full-time consultant may be in a better position to understand the school setting and to know how to implement new techniques, but an outside consultant may be better able to see problem areas and to bring new perspectives. An outside consultant, however, runs the risk of being considered a snooper. To some his role may be unclear. Teachers may be reluctant to follow his suggestions because his role is temporary, and he may be viewed as having less power than the regular staff person to whom he is responsible.

Stephen M. Corey (1963) in his Helping Other People Change said that only rarely in his experience did a consultant fail because he lacked sufficient knowledge about or experience with a specific area but rather because he lacked sensitivity in human relationships. What is needed is the ability to develop good working relations and to communicate in the context of the situation in which help is needed. In the early period of consultation relatively more time may need to be devoted to establishing desirable human relations so that in the later period more time may be given to the technical aspects of the consultation.

School districts which plan to use consultants in programs of inservice education should make clear in advance their goals in seeking the consultation and should be prepared to work through with consultants how best they may be used to achieve these objectives.

New Approaches to Scheduling and Finance

Use of Prime Time

Time is a crucial consideration for inservice education programs. The NEA's Project on Instruction (1963) recommended that "adequate time should be provided for each staff member to participate in curriculum planning, research, evaluation, and other activities designed to improve the instructional program." (p. 22)

The question is: What is "adequate time"? Teachers such as those in a Conference on Inservice Education sponsored by the Far West Laboratory for Educational Research and Development (1966) point up that "inservice education should take place at a time of day when teachers are not exhausted." (p. 75) The average teachers' work week is indeed long, an estimated 47.3 hours (NEA Research Division, 1963). This includes the time needed not only for classroom teaching but for all related duties. It is 18 percent above the usual forty hour week.

School districts, then, have the problem of providing prime time for inservice education activities, especially those which have as their goal the development of creative and new ideas. Some have lightened the teaching load to provide room for inservice education. Some have shortened the school day or combined classes to make this possible. Some provide substitutes so that teachers may attend certain programs.

Another approach is to lengthen the period of employment of teachers and make available extra days or weeks at extra pay. Several school systems have adopted a so-called career-teacher plan which provides for year-round employment of teachers. Under this system teachers work eleven months and have one month of vacation with pay. They may spend one summer in four on the school campus, the other three at college or in travel. They may attend specially planned workshops or work on special projects (Wenger, 1959).

Still another approach is to grant teachers leaves of absence for professional growth. Such leaves include those for professional study, attendance at professional conferences, exchange teaching abroad or at home, visiting other schools, professional organization work, sabbatical, research, and travel (NEA Research Division, 1966).

Use of Support Money

Cost as well as time is an important factor in inservice education. Teachers may feel financial pressure if they are required to spend time and money for inservice education unless they are reimbursed for it. Nearly one third of the school systems enrolling 6,000 or more pupils require teachers to show evidence of professional growth in order to earn regular salary increments (NEA Research Division, 1966). Salary schedules also usually offer the incentive of additional pay for additional preparation that moves a teacher to a higher training classification.

Still another approach to relieving the teacher's financial pressure is for the district to pay for inservice education either partially or in full. Such payment may cover attendance at courses offered under college auspices or sponsored by the district or participation in a variety of other kinds of professional growth opportunities.

The relationships between the money a district is willing or able to spend on innovation and the rate of adoption of innovations seem unclear. Studies by Paul R. Mort (1941) and others appeared to indicate a direct relationship between innovations and finances. As Mort put it, "if but one question can be asked, on the basis of the response to which a prediction of adaptability is to be made, the question is: 'how much is spent per pupil?'" (p. 15) More recent studies, however, have found little correlation between the amount of money spent per child and innovation. Richard O. Carlson (1965) found that the "amount of money spent per child had no predictive powers in relation to the amount of adaption of these innovations." (p. 9)

Many of today's innovations in schools, of course, represent a tremendous expenditure. The new Physical Science Study Committee High School Physics Course Materials, for example, cost $4.5 million to produce. Such costs are borne not by school districts but by grants from governmental agencies or private foundations. Thus the local district increasingly profits from large-scale comprehensive efforts to effect innovations. Nevertheless, if the cost to a district is inordinate, it may be reluctant or unable to move quickly. Innovations have a better chance of adoption if they can be adopted piecemeal so that the cost can be divided over some period of time.

New Cooperative Approaches

Increasingly, inservice education requires cooperative approaches at the local, regional, and national levels. We explore here some patterns of cooperation.

The Cooperative Council

One approach is that of teamwork through shared leadership. Donald R. Rippberger (1967) reviewed and evaluated the work of one such council, the Los Angeles Cooperative Council on Inservice Education. This council grew out of prior cooperation on a human relations project which was conducted by the Los Angeles County Office of Education, University Extension and the School of Education at the University of California at Los Angeles, and the school districts of Montebello, Whittier, Hawthorne, Washburn, Lyndwood, Pasadena, Inglewood, Alhambra, and Santa Monica. The original purpose of the council was to work on problems common to the districts in order to improve the process, content, and practices of inservice education within the districts.

The council developed six main functions: (1) working cooperatively on common problems, (2) sharing and training consultant help, (3) coordinating forces and facilities, (4) providing inservice training, (5) using and applying research, and (6) developing new patterns of inservice education.

The results of the study indicated that the council was an effective experiment in inservice education that made it possible for university leadership to cooperate with advanced school districts and the Los Angeles Office of Education. The practices and trends of the council appeared to agree with national trends in promising practices. The council itself appeared to mark the beginning of a trend in inservice education. The council process was democratic and provided a training ground for leadership. Finally, the council advanced the entire continuum of research: pure, applied, and action. It helped to reduce the time lag in putting educational research to practical use.

The Research and Development Centers

The Research and Development Centers sponsored by the United States Office of Education are each associated with a major university; one already established as a leader in educational research. Most center directors are widely known researchers. Each center concentrates on a primary problem in education. Harvard, for example, focuses on individual differences in learning; the University of Texas, on teacher education; and Stanford University, on teaching. The research and development centers preceded the regional educational laboratories and are only now working out closer relationships with them. The Stanford Center on Teaching and the Far West Laboratory for Educational Research and Development, for instance, are cooperating on try-outs of microteaching in inservice teacher education.

A few publications are becoming available from the centers, but often the best way to get new findings is to attend sessions at a major research conference. ERIC is beginning to make some reports available. The impact of the ten or more centers is only now beginning to be felt; it cannot be assessed until several years of work have been completed.

Regional Laboratories for Educational Research and Development

The regional educational laboratories were created by Congress under the Elementary and Secondary Education Act of 1965. Their responsibility is to put the findings of education and other relevant research into practice in the schools. There are twenty such laboratories covering every region of the mainland United States and Alaska.

The emphasis is more on development than on research but the laboratories are beginning to tackle some of the major problems of education in a programmatic rather than a piecemeal way. After extensive analysis of regional educational weaknesses and strengths, each laboratory launched on a plan of action often using instructional systems analysis as a basis for program planning, analysis, and evaluation. Some laboratories, such as the Educational Development Corporation of Newton, Massachusetts, which built on strong predecessors and launched PSSC Physics, are well established. Some laboratories are just beginning and are beset by budget and staff shortages. Most operate autonomously; some, as corporations; some, privately; some, semi-publicly. All are heavily, if not entirely, dependent on USOE financing but are also seeking out additional sources of income.

Five major areas of concentration for the laboratories were identified recently: (1) curriculum, (2) teacher education, (3) special education, (4) instructional technology, and (5) school-community relationships. Unlike the centers for research and development, the laboratories are not closely, if at all, aligned with any major university or college. Some are staffed with more psychologists than educators, although educational researchers, of course, predominate. Many have one or more sociologists or anthropologists on their staffs. Some believe the best service of the laboratories is to be the leader or at least the catalyst in solving major educational problems in their region. Others feel they do not want to take over established educational roles and can offer a neutral base in which sometimes conflicting groups can get together to work cooperatively on problems of education.

Some speakers and writers have been very critical of the regional laboratories; others have confidence that they can solve at least some of the persisting major problems of education: inferior slum schools, educational dropouts, intergroup strife, and the shortage of competent teachers.

Most programs devised by the regional laboratories are still in the developmental stages. Whether they can make a significant contribution to education remains to be seen.

CRITERIA BY WHICH EDUCATORS MIGHT MAKE DECISIONS ABOUT INSERVICE EDUCATION

As yet educators are not in a position to be prescriptive about inservice education. The present state of research is certainly not definitive enough to serve as a basis on which to mandate inservice education practices.

Given the present state of our knowledge of research and innovations, however, educators do have some bases for making decisions about inservice education practices. They can ask whether proposed inservice education practices:

1. Relate to what is going on in individual schools and communities.
2. Involve teachers and administrators in planning.
3. Choose as initial participants personnel who express interest in change.
4. Differentiate various kinds of programs appropriate for various groups and individuals.
5. Diagnose individual teacher readiness for various kinds of programs.
6. Specify cognitive, affective, and skill objectives in performance terms.
7. Emphasize process as well as content (teacher as catalyst in learning process rather than information dispenser).
8. Utilize appropriate patterns (intensive group experience, task team, interaction analysis, microteaching, etc.).
9. Choose appropriate media (open or closed circuit television, videotape, programed instruction, etc.)
10. Use staff appropriately (staff teams, principal, supervisor, clinical professor, consultant, etc.).
11. Provide prime time and adequate support money.
12. Provide for evaluation and develop evaluation instruments that emphasize feedback based on classroom situations (self-evaluation, peer evaluation, pupil feedback, etc.)
13. Cooperate where appropriate with other schools, districts, colleges and universities, R & D Centers, Regional Laboratories.
14. Enlist a high level of community understanding and support.

SPECIAL PROBLEMS IN MAKING DECISIONS ABOUT INSERVICE EDUCATION

When educators have identified the criteria in which they will base their decisions about inservice education, they must consider the special needs of their particular school or school district. Then they can review possible inservice education practices and select those approaches which seem most likely to fulfill their criteria.

Making decisions about inservice education programs may prove to be more subject to pressures from within and without the school than is anticipated. Many teachers will welcome opportunities for expanding their competencies and learning new approaches to teaching. Some will lack interest. Some will actively resist any program that seeks to effect change or that requires time and effort in participation.

In some instances programs of inservice education may be part of larger plans for effecting changes in staff utilization, curriculum, instructional practices, school organization, or use of facilities. Again, many, both inside and outside the school, may welcome these changes, but some may resist.

What, then, is needed if decisions are to be appropriate and to result in effective programs of inservice education? Clearly, certain needs must be met for: (1) administrative leadership, (2) staff involvement, (3) simultaneous development of curriculum and inservice education practices, (4) evaluation and research and (5) knowledge and use of resources to help.

1. Need for administrative leadership. In inservice education, as in other areas, administrators must expect to play leadership roles. Their perceptions of their roles may differ from those held by their staff. They may not hold the same role expectations, or they may be unable to meet them. To the extent, however, that they are able to balance the needs of the schools with the needs of the individuals involved, they will be able to have high staff morale.

   With new inservice education approaches come new demands on administrators. They may be asked to cooperate with teachers in new ways and to permit and indeed encourage flexibility and experimentation with new ideas and practices. To the extent that they can find satisfaction in these new roles, they too will have high morale.

2. Need for staff involvement. If staff are to participate wholeheartedly in inservice education programs, they must be involved in the decision-making process. Furthermore, they must be allowed to start with their own concerns. Teachers will vary in their readiness for inservice education so that programs must be tailored to their various requirements.

    One purpose of inservice education should be to reinforce teachers' expectations of change where these exist. Those who are ready to develop new practices should be encouraged to move ahead. In many instances volunteers have made new programs so attractive that others ask to participate. If it becomes necessary to include some who appear reluctant to change, they should perhaps be placed in groups where those who are more eager are in the majority. Staff members should not, however, be forced into new patterns for which they are not receptive. What will be needed is a range of inservice programs to accomodate the range of teacher readiness.

    Staff members who participate in inservice education should be given adequate support in terms of time and money. Incentives for participation should be provided. Recognition should be given to innovators and adopters of meaningful new practices.

3. Need for simultaneous development of curriculum and inservice education. In some districts curriculum change has been attempted without inservice education. Districts, for example have purchased prepackaged units of instruction without providing inservice training for the teachers who were to use them. In other districts, inservice education has been designed to change organizational or other patterns of school practice without at the same time changing the curriculum. Districts, for example, have attempted to introduce team teaching or flexible scheduling through inservice education without providing concomitant curriculum development. Inservice education cannot be viewed apart from the total system; planning for inservice education must be integrated into total plans for development.

4. Need for evaluation and research. Inservice education, as we have indicated, has suffered from a lack of sound evaluation and research. What exists are largely descriptive reports of programs undertaken without systematic evaluation. What is needed are programs with behaviorally stated objectives for which evaluation instruments can be designed. Only as it becomes possible to measure the extent to which objectives have been reached by given programs will it become possible to effect improvement in inservice education.

    A forthcoming publication of the Far West Laboratory for Educational Research and Development (Haan, 1967, in press) identifies and discusses evaluation instruments for the measurement and assessment of personal-social variables, school social interaction, cognitive processes, socialization to a democratic society, knowledge of human achievements, and achievement of basic skills.

5. Need for knowledge and use of resources to help. Fortunately many resources are at the command of those who would plan inservice programs. Some of these lie within the personnel, programs, and finances of local school districts. Increasingly, however, districts are cooperating with other districts, colleges and universities, Research and Development Center, Regional Laboratories for Educational Research and Development, and other regional and national programs, which are prepared to work jointly in a wide variety of ways in planning, implementing, and evaluating inservice education.

INSERVICE EDUCATION FOR TEACHERS OF THE DISADVANTAGED--A SPECIAL CASE

Nine out of ten urban school districts offer some kind of special training to teachers of the disadvantaged (NEA Research Division, 1966 a). Most common are special workshops and faculty meetings. Many districts make individual counseling available to teachers in slum areas. Many also provide institutes in cooperation with nearby colleges or universities for which the teachers' tuition is paid. Many districts report that at least some of these activities are financed in whole or in part by the federal government.

In spite of the large numbers of special training programs for teachers of the disadvantaged, some educators question the need for inservice programs geared especially to the needs of these teachers. Others advocate completely specialized training programs not only at the inservice but at the preservice level.

Generic programs of inservice education would certainly seem to apply to teachers of the disadvantaged as to other teachers. What seems clear, nevertheless, is that some programs are especially appropriate for teachers of the disadvantaged.

In five years the literature on teaching the disadvantaged has become voluminous (McCloskey, 1966). The literature on training teachers to teach in urban schools has grown apace. Much literature in both areas, as might be expected, describes but does not analyze. Increasingly, however, more analytical approaches are being used.

One fact clearly emerges from all the literature: teachers in schools for the disadvantaged, like their counterparts in other schools, used new patterns of inservice education. They need oportunities to develop new attitudes, new understanding, and new skills.

The research findings already reported relating to schools, teachers, and the change process, of course, apply also to teachers of the disadvantaged.

Some principles, however, emerge that seem especially relevant to these teachers. We review here some on which there seems to be considerable agreement. We focus on the:

1. Need to gain respect for the disadvantaged.
2. Need for field work in the disadvantaged community.
3. Need to develop special skills.
4. Special problems in teaching the disadvantaged.
5. Patterns of inservice education for teachers of the disadvantaged.

1. Need to Gain Respect for the Disadvantaged

All teachers need respect for all students and particularly the disadvantaged. Whether or not disadvantaged children learn, will depend in large measure on how the teachers feel about them and evaluate their potential (Davis, n.d.).

One approach to helping teachers gain respect for their disadvantaged students emphasizes familiarity with the cultural patterns of the disadvantaged. From this viewpoint, teachers must come to know the strengths as well as the weaknesses of the various subcultures and to appreciate the ways the disadvantaged cope with their environment. "If we realistically understand and accept the subcultures from which students come, we can find strengths, enthusiasms, and positive areas heretofore untapped, through which we can communicate and productively engage culturally diverse students." (Lohman, n.d.)

Frank Riessman (1964) early formulated five specific proposals to help inner-city teachers work with disadvantaged students. They included ways of building teacher respect, needed teacher experiences, general do's and don'ts, technology, and effective teacher styles.

Joseph D. Lohman (n.d.) developed as a result of a year's inservice program with teachers of so-called marginal elementary, junior and senior high school students, a manual that presents a sequence of teachers' coping strategies supplemented by social science insights.

A second approach to inservice education for teachers of the disadvantaged stresses the importance of understanding the place of the various racial, ethnic, and religious groups in the history of our nation. Many districts have developed programs to increase such understanding. Many sources of study, resource and teaching units, and related materials are now available in such subject areas as Negro history. New handbooks for educators on Mexican-Americans (Forbes, 1967) and Afro-Americans in the Far West (Forbes, 1967) are available from the Far West Laboratory for Educational Research and Development.

Teachers who become more familiar with diverse cultural patterns, however, do not necessarily develop increased respect for their disadvantaged students. What seems to be needed on the part of many teachers is increased appreciation of the disadvantaged as individuals, albeit individuals in a particular cultural setting. So far there appears to be little research in this direction.

2. Need for Field Work in the Disadvantaged Community

To help teachers gain more understanding of their students, many programs have been designed to provide teachers with field experience in disadvantaged communities. Such programs run the danger of increasing exposure without increasing insight. In some instances members of disadvantaged communities have resented the "sightseeing" approach to their problems. Field work then, must be carefully planned with specific objectives if it is to add a needed dimension to inservice education.

One objective of field work is to increase sensitivity to the life space of disadvantaged youngsters. Often this field work involves tutorial work in homes or neighborhood facilities. The goal is to expand teachers' understanding of the perceptual base which disadvantaged students bring to the classroom, their language patterns, behavior patterns, value orientations, and motivational problems. Thus it is hoped that teachers will increase their awareness of the reality base for the learning of these students.

A second purpose is to develop understanding of the organization of the disadvantaged community. Teachers frequently study in some depth such problems as housing, employment, health, and relationships with the law that are the fabric of the life of the disadvantaged. They explore also the variety of community services available to help and the gaps in such services. The goal is to prepare them not only to gain greater understanding of the problems presented but also to work with social workers, probation workers, and other community agents who may be involved with their students.

Finally, many programs state as one of their aims to help teachers to develop skills in working with parents who may be "partly or totally illiterate, hostile, abusive, and concerned--but helpless." (Milner, 1966, p. 9.)

3. Need to Develop Special Skills

If teachers are to work effectively with the disadvantaged, they must translate their understanding of students' learning problems into teaching behavior. [Many programs of inservice education have been criticized for presenting an unbalanced approach with sufficient emphasis on understanding but too little stress on strategies for classroom use (Bowman and Klopf, 1966).] What teachers request is more help in developing techniques and materials and in having an opportunity to try these out in actual classroom situations where innovation is encouraged.

Unfortunately, many special practices that are recommended in the literature have little or no research to support them. Educators who wish to keep up-to-date with new research projects in urban teacher education may wish to use the special resources of the ERIC Clearinghouse on the Disadvantaged at Yeshiva University including the IRCD Bulletin and the various reports and newsletters such as the Clearinghouse on Urban Teacher Education Report from the American Association of Colleges for Teacher Education.

We report here very briefly some areas of developing skills in teaching the disadvantaged that appear to have promise:

1. In integrating cognitive, affective, and action components. Teachers of the disadvantaged especially need help in understanding the significance of affective learning and the ways in which cognitive, affective, and skill objectives are interactive and mutually supportive. The statement of purpose of the Philadelphia Cooperative Schools Summer Program reported by Terry Borton (1967) reflects this concern:

   > We want to educate students so that they become larger, more open, more independent human beings, able to function effectively in a world of rapid social and moral change. We believe that a person struggles toward these goals through a process of integrating his thoughts, his concerns, and his actions. Our teaching will be directed toward the development of this prespective, this sense of an integrating self.

   Gerald Weinstein and Mario Fantini of the Ford Foundation's Fund for the Advancement of Education outlined a theoretical model for developing courses toward this goal in a paper entitled, "A Model for Developing Relevant Content for Disadvantaged Children."

   Such integration seems as relevant to the education of teachers as to that of their students. Garda W. Bowman and Gordon J. Klopf (1966) in evaluating programs to prepare teachers for working with disadvantaged children and youth concluded that: "The majority of teacher educators, teacher-students, and Aware Team investigators believed that cognitive, effective and action components can be integrated most effectively through experiential learning, in closely supervised practicums."

2. In developing teaching strategies for intellectual skills. Much evidence exists that disadvantaged students are likely to be handicapped by a lack of cognitive skills (Hunt, 1962; Metfessel, n.d.). New research on thinking processes has pointed to the importance of inductive teaching methods in improving intellectual skills (Taba and Elzey, 1964).

   Teachers in service can develop inductive strategies through learning such techniques as asking appropriate questions (Amidon and Hough, 1967; Flanders, 1966; Sanders, 1966; Taba, 1966). They can also practice their application in specific aspects of new curricula such as those in the social studies (Contra Costa Social Studies Units, Grades 1-6; Taba and Hills, 1965).

3. In using process-oriented techniques promoting individual development. Teachers can be trained in using process- rather than end-oriented techniques to foster development of self-concept, language, social skills, cognition, and health in disadvantaged children. An evaluation of a Head Start orientation program showed significant increases in the performance of teachers in process-oriented techniques as a result of special training (Levine, 1965). In the process-oriented approach emphasis is on the interaction between teacher and child and the relationships which develop within the group so that affect is a primary avenue for learning.

4. In structuring the learning situation. Teachers of the disadvantaged especially should be able to structure the learning situation quickly so that their students have a sense of direction in the learning experience and a structure that builds order. Many training programs have recognized this need, among them that of Michigan State University and the Lansing School System (1965) in a special workshop for teachers of culturally disadvantaged youth.

5. In using experience-centered materials. Much has been written of the need to extend the experiences of the disadvantaged and to use materials that can enrich the stimuli available to them. Cynthia P. Deutsch (1965), for example, assuming that the organization, speed, and manner of presentation of stimuli are influential in acquiring new knowledge, has been studying how the verbal, perceptual, and attentional characteristics of children who come from disadvantaged circumstances are related to their learning. Martin Deutsch and Leo Goldstein at the Institute for Developmental Studies at New York University are evaluating the effectiveness of an enriched curriculum for prekindergarten, kindergarten, first and second grade children in overcoming the consequence of environmental deprivation.

Teachers need help in evaluating the wide variety of media now available for use with the disadvantaged. Many of the new reading materials, for instance, are designed to be of high interest and low reading ability. What is needed is more research on how effectively such materials raise comprehension and vocabulary levels and stimulate further reading (Goldberg, 1967). Media such as the stimulus films reported by David Glissman and Don Williams (1966) also need to be explored.

6. In using programed instruction. Many educators report that disadvantaged learners especially need immediate feedback from their performance. Programed instruction has been identified as one way to provide such feedback and to aid teachers in setting specific and deliberately paced objectives (Smiley, 1967).

   Lassar G. Gotkin (1965) defined the most important implication for teacher education as the requirement that programed sequences should be tested individually in the presence of the learner. Further research on the implications of programed instruction for use with disadvantaged students is needed.

7. In teaching human relations. Many inservice programs for teachers of the disadvantaged have stressed the urgent necessity of helping teachers learn how to teach human relations involving ethnic, religious, or cultural differences. All students need to develop more understanding, skills, and sensitivity in this area, but disadvantaged students especially require the kind of learning experiences that will help them to overcome their feelings of rejection. What seems to be needed is not a new course but a new emphasis throughout the school--"an emphasis in which the human relations concept permeates all aspects of living in school; it is this living in school which is the real curriculum of the child." (Crosby, 1967, p. 176) Muriel Crosby (1967) described one program designed to meet this objective in the Wilmington (Delaware) schools. The inservice education of the staff was planned to: (1) effect a change of attitudes on the part of teachers, (2) enable teachers to learn new approaches and techniques in diagnosing the human-relations needs of children, and (3) help teachers acquire skills in building curriculum experience units based on children's perceptions of their needs.

8. In guidance. Inservice education programs for teachers of the disadvantaged freuqently emphasize the importance of training teachers in guidance so that all students can be helped to realize their full potential. Special focus is often on the needs of the potential dropout. (Losi, 1964; New York State Commission for Human Rights, n.d.)

4. Special Problems in Teaching the Disadvantaged

Teachers of the disadvantaged have special problems in the development of professional insights. Among the major problems identified by research are:

1. Development of a working attitude toward those aspects of the culture of their pupils which deviate from their own values and behavioral commitments and procedures for coping. (Cursing, fighting, sexual interests, etc.)
2. Radical adjustments to teach children on the average two years academically retarded and frequently almost illiterate.
3. Difficulty in enduring onslaughts on their own physical and emotional energies. (The BRIDGE Project, n.d.)
4. Identification of teaching style successful with disadvantaged children (Goldberg, 1964).

5. Patterns of inservice education for teachers of the disadvantaged

What has been reported with respect to patterns of inservice education for all teachers is, of course, also applicable to teachers of the disadvantaged. Two kinds of programs, however, deserve special emphasis here.

One especially fruitful approach for inservice education for teachers of the disadvantaged appears to be some form of continuing relationship between the colleges that prepare teachers and the teachers in service. The relationship between the student teacher and the college should continue into the first few years of teaching particularly for teachers in "difficult" schools (Ornstein, 1964). Colleges and school districts could pool their resources to provide necessary materials, expert teachers, and full-time inservice education for new teachers (Rivlin, 1962). Laboratory schools affiliated with colleges could be established in disadvantaged urban districts.

In the Greenburgh School District No. 8 (Westchester County, New York) the university sent education consultants to aid teachers in finding techniques to reach every child. Consulting psychologists and guidance experts were hired to assist teachers in dealing with emotionally disturbed children. (Buchheimer and Buchheimer, n.d.) In New York City teacher-training consultants aided the development of experimental orientation and inservice training in forty experimental schools. Teachers in these schools expressed more confidence in their ability to teach and principals reported that they showed more professional growth than comparable teachers in forty control schools (Teitelbaum, 1966).

Another approach to inservice education for teachers of the disadvantaged that is frequently stressed is that of the intensive group experience. These teachers especially can profit from inservice sensitivity training that helps them to understand and improve their relationships with the disadvantaged. All school personnel involved can share in this training (Advisory Committee on Compensatory Education, 1965). Summer workshops are more often recommended than traditional courses, because they can provide more intensive experiences (Birnbaum and Walcott, n.d.).

Specialized programs of inservice education for teachers of the disadvantaged run the danger of segregating these teachers. Care must be taken to provide programs common to all teachers as well as specialized programs so that such isolation does not occur. Furthermore, all teachers need to develop understanding of and sensitivity to the disadvantaged.

A LOOK AHEAD TO THE 1970's

The good school of tomorrow already exists in the best educational practices of today (Pierce, 1964). It will not be limited to any one point of view or one plan of organization or practice. For the good school is the one that achieves its purposes effectively. To do this it must be constantly changing.

But change alone is not enough. If objectives are to be reached, change must be planned. And effective inservice education programs must be an integral part of the school's plan for change. For only then can change be what it must be, not the result of accident or piecemeal tinkering but of carefully effected planning.

BIBLIOGRAPHY

BIBLIOGRAPHY

Advisory Committee on Compensatory Education (1965), Progress Report on Compensatory Education Programs in California. Sacramento, California: Advisory Committee.

Allen, Dwight W., and Jennie C. Fortune (1965), "An Analysis of Micro-Teaching: A New Procedure in Teacher Education." Stanford University: School of Education. Mimeographed.

_______, and David B. Young (1966), "Television Recordings: A New Dimension in Teacher Education." Stanford University: School of Education. Mimeographed.

Amidon, Edmund, and Ned Flanders (1967), "Interaction Analysis as a Feedback System." In Edmund Amidon and John B. Hough (eds.), Interaction Analysis: Theory, Research, and Application. Reading, Massachusetts: Addison-Wesley Publishing Co.

_______, Norma Furst, and John Mickelson (1967), "The Effects of Teaching Interaction Analysis to Student Teachers and Cooperating Teachers." Paper presented at American Educational Research Association Annual Meeting. New York City, February 18.

_______, and John B. Hough (eds.) (1967), Interaction Analysis: Theory, Research, and Application. Reading, Massachusetts: Addison-Wesley Publishing Co.

Archer, C. P. (1960), "In-Service Education." In C. W. Harris (ed.), Encyclopedia of Educational Research. 3rd ed. New York: Macmillan. Pp. 702-710.

Asch, S. E. (1952), Social Psychology. New York: Prentice-Hall.

Association for Supervision and Curriculum Development (1960), Leadership for Improving Instruction. Yearbook 1960. Washington, D.C.: National Education Association.

Bahner, J. M. (1964), "Continuing Education; Challenge to Principals." Nat El Prin 44:10-14, September.

Baird, J. Hugh, W. Dwayne Belt, and Clark D. Webb (n.d.), "Micro-teaching at Brigham Young University, Utah." Department of Teacher Education, Brigham Young University. Mimeographed.

Barton, Allen H., and David E. Wilder (1964), "Research and Practice in the Teaching of Reading: A Progress Report." In Matthew B. Miles (ed.), Innovation in Education. New York: Teachers College, Columbia University. Pp. 361-398.

Bauer, Raymond A. (1964), "The Obstinate Audience: The Influence Process from the Point of View of School Communication." Am Psychol 19: 319-328, May.

Bell, Robert (n.d.), "Individualized Inservice--A Professional Approach." Whittier, California: East Whittier School District. Mimeographed.

Benet, James (1967), "The Big Snag for Bright School Ideas." San Francisco Chronicle, July 8.

Bennett, Edith B. (1955), "Discussion, Decision, Commitment, and Consensus in 'Group Decision.'" Hum Relations 8:251-273.

Bessent, E. W. (ed.) (1967), Designs for Inservice Education. Austin, Texas: The University of Texas, Research and Development Center for Teacher Education.

Biddle, B. J., H. A. Rosencranz, and E. F. Rankin, Jr. (1961), Studies in the Role of the Public School Teacher. Columbia, Missouri: University of Missouri Press.

Birnbaum, Max, and Leon B. Walcott (n.d.), Human Relations Education for Teachers through the Institute X Type Course. New Brunswick, New Jersey: Rutgers University.

Bishop, Leslee (1967), "The Systems Concept." Paper presented at Imperatives in Instruction, a NEA Regional Conference on Instruction. Philadelphia, March.

Blanchard, Walter J., and Thomas B. Goodkind (1967), "The University 'Clinical Professor' as a Change Agent in the Public Schools." Paper presented at the American Educational Research Association Annual Meeting. New York City, February 18.

Blanke, Virgil (1965), "Lesson in Change." Theory into Practice 4:131-132.

_______ (1966), "The Issue: Planning for Educational Change." Theory into Practice 5:1-4, February.

Bloom, Benjamin (ed.) (1956), Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I: Cognitive Domain. New York: David McKay Company, Inc.

Borton, Terry (1967), "What Turns Kids On?" Sat R 80:72-74, April 15.

Bowman, Garda W., and Gordon J. Klopf (1966), "Teachers Become Aware." Clearinghouse on Urban Teacher Education Report 2:3-5, Spring.

Bradford, Leland P., Jack R. Gibb, and Kenneth D. Benne (1964), T-Group Theory & Laboratory Method. New York: John Wiley & Sons, Inc.

Brickell, Henry M. (1961), Organizing New York State for Educational Change. Albany, New York: State Education Department.

_______ (1964), "State Organization for Educational Change: A Case Study and a Proposal." In Matthew B. Miles (ed.), Innovation in Education. New York: Teachers College, Columbia University, Pp. 493-531.

Bridge Project (n.d.), The Preparation of Teachers for Schools in Culturally Deprived Neighborhoods. Cooperative Research Project No. 935. Flushing, New York: Queens College of the City University of New York.

Brode, E. Leland (1967), "Imitation of Supervisors as a Factor in Teachers' Classroom Behavior." Paper presented at American Educational Research Association Annual Meeting. New York City, February 18.

Browne, C. G. (1957), "Leadership and Change." Personnel Ad 20:43-47, March-April.

Buchheimer, Naomi, and Arnold Bucheimer (n.d.), Equality through Integration. New York: Anti-Defamation League of B'nai B'rith.

Bushnell, Donald D. (1963), "The Role of the Computer in Future Instructional Systems." AV Communications R 11:41, March-April.

Carlson, Richard O. (1964), "Environmental Constraints and Organizational Consequences." In Daniel E. Griffiths (ed.), Behavioral Science and Educational Administration. Sixty-third Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 262-276.

_______ (1964a), "School Superintendents and Adoption of Modern Math: A Social Structure Profile." In Matthew B. Miles (ed.), Innovation in Education. New York: Teachers College, Columbia University.

_______ (1965), Barriers to Change in the Public Schools. Eugene, Oregon: Center for the Advanced Study of Educational Administration, University of Oregon.

Charters, W. W., Jr. (1957), "The Communication Structure of School Staffs." Paper presented at American Sociological Association. Washington, D.C., August.

_______ (1962), "Social Class Analysis and the Control of Public Education." Robert R. Bell (ed.), The Sociology of Education: A Sourcebook. Homewood, Illinois: The Dorsey Press. Pp. 174-90.

_______ (1964), "An Approach to the Formal Organization of the School." In Daniel E. Griffiths (ed.), Behavioral Science and Educational Administration. Sixty-third Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 243-261.

Childress, Jack R. (1965), "In-service or Continuing Education for Teachers." J of Ed 147:36-45, February.

Chin, Robert (1964), "Models of and Ideas about Changing." In W. C. Meierhenry (ed.), Media and Educational Innovation. Lincoln, Nebraska: University of Nebraska Press. Pp. 1-22.

Clark, David (1962), Third Symposium on Educational Research. Bloomington, Indiana: Phi Delta Kappa.

_______ (1964), "The Engineering of Change in Education." Keynote Address to the Conference on the Implementation of Educational Innovations. Santa Monica, California: System Development Corporation, May 16-19.

Coch, J., and J. R. P. French, Jr. (1948), "Overcoming Resistance to Change." Hum Relations 1:512-533.

Conant, James B. (1963), The Education of American Teachers. New York: McGraw-Hill Book Co.

Contra Costa Social Studies Units, Grades 1-6. Hayward, California: Rapid Printers and Lithographers, Inc.

Corey, Stephen M. (1953), Action Research to Improve School Practices. New York: Teachers College, Columbia University.

_______ (1957), "Introduction." In Nelson B. Henry (ed.), In-Service Education. Fifty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp. 1-10.

_______ (1963), Helping Other People Change. Columbus, Ohio: Ohio State University Press.

Cox, R. C. (1966), "A Summary of the Findings in the Individually Prescribed Instruction Project." Pittsburgh, Pennsylvania: University of Pittsburgh.

Crosby, Muriel (1967), "Elementary School Programs for the Education of the Disadvantaged." In Paul Witty (ed.), The Educationally Retarded and Disadvantaged. Sixty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp. 168-183.

Davis, Allison (n.d.), "Society, the School, and the Culturally Deprived Student." Chicago: Department of Education, University of Chicago.

Deutsch, Cynthia (1965), "Learning in the Disadvantaged." Paper presented at the Conference on Analyses of Conceptual Learning and Reeducation. The University of Wisconsin, Madison, Wisconsin.

Eash, Maurice J. (1967), "A Critical Analysis of Three Models for Implementation of Research Findings." Paper presented at American Educational Research Association Annual Meeting. New York City, February 17.

Far West Laboratory for Educational Research and Development (1966), Proceedings: Conference on Inservice Education. San Jose, California, December.

Festinger, Leon (1942), "Wish, Expectation, and Group Standards as Factors Influencing Level of Aspiration." J Abn Soc Psychol 37:184-200 April.

_______ (1950), "Informal Social Communication." Psychol R 57:271-282, September.

_______ (1954), "A Theory of Social Comparison Processes." Hum Relations 7:117-140.

Flanders, Ned A. (1963), Helping Teachers Change Their Behavior. Ann Arbor, Michigan: University of Michigan.

_______ (1963a), "Teacher Behavior and In-Service Programs." Ed Leadership 21:25-29, October.

Forbes, Jack (1967), Mexican-Americans: A Handbook for Educators. Berkeley, California: Far West Laboratory for Educational Research and Development.

_______ (1967a), Afro-Americans in the Far West: A Handbook for Educators. Berkeley, California: Far West Laboratory for Educational Research and Development.

Freedman, Morris (1964), "Teacher Training through Programmed Instruction." Educational Communications Convocation Proceedings. New York: State Department Division of Educational Communications.

Fry, Edward B., Glenn L. Bryan, and Joseph W. Riguey (n.d.), "Teaching Machines: An Annotated Bibliography." AV Communications R Supplement 1, Vol. 8, No. 2.

Fuller, Frances F., Oliver H. Bown, and Robert F. Peck (1967), Creating Climates for Growth. Austin, Texas: The Hogg Foundation for Mental Health, The University of Texas.

Gage, N. L., Philip J. Runkel, and B. B. Chatterlee (1960), Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers. Urbana, Illinois: Bureau of Educational Research, University of Illinois.

Getzels, Jacob W. (1963), "Conflict and Role Behavior in the Educational Setting." In W. W. Charters, Jr., and N. L. Gage (eds.), Readings. Boston: Allyn and Bacon, Inc. Pp. 309-318.

_______, and E. G. Guba (1955), "The Structure of Roles and Role Conflict in the Teaching Situation." J Ed Sociol 29:30-40, September.

_______, and Herbert A. Thelen (1960), "The Classroom as a Unique Social System." In Nelson B. Henry (ed.), The Dynamics of Instructional Groups. The Fifty-ninth Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 53-82.

Glaser, Robert (1964), "Implementation of Training Research for Education." In Ernest R. Milgard (ed.), Theories of Learning and Instruction. Fifty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp. 153-181.

Glissman, David, and Don G. Williams (1966), "Stimulus Films." Audiovisual Instruction 552-554, September.

Goldberg, Miriam (1964), "Adapting Teacher Style to Pupil Differences: Teachers for Disadvantaged Children." Merrill-Palmer Quarterly 10:161-177, April.

_______ (1967), "Broadening Literacy: The Responsibility of the School." In Paul Witty (ed.), The Educationally Retarded and Disadvantaged. Sixty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp.356-361.

Goodlad, John I., et al. (1957), "The Consultant and In-Service Teacher Education." In Nelson B. Henry (ed.), In-Service Education. Fifty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp. 174-193.

Goslin, David A. (1965), The School in Contemporary Society. Chicago: Scott Foresman and Co.

Gotkin, Lassar G. (1965), "Some Implications of Programed Instruction Research for Urban Teacher Education." Clearinghouse on Urban Teacher Education Report 1:2,8, April.

Green, Hugh (1961), "Project Mathematics: Videotape Teaches Teachers." The NAEB Journal 45-50, March-April.

Griffiths, Daniel E. (1964), "Administrative Theory and Change in Organizations." In Matthew B. Miles (ed.), Innovation in Education. New York: Teachers College, Columbia University. Pp. 425-436.

Gross, Neal (1964), "Some Research Findings of the National Principalship Study and Their Implications for Educational Change. In Harry V. Anderson (ed.), Conference on Training Programs for Personnel Who Work with Educationally Disadvantaged Students. Coop. Res. Project No. F-030. Boston: Boston University Human Relations Center.

_______, W. S. Mason, and A. W. McEachern (1958), "Explorations in Role Analysis." New York: John Wiley & Sons, Inc.

Guest, Robert H. (1962), Organizational Change: The Effect of Successful Leadership. Homewood, Illinois: The Dorsey Press, Inc., and Richard D. Irwin, Inc.

Haan, Norma (1967), A Handbook for the Assessment and Measurement of Educational Outcomes. Berkeley, California: Far West Laboratory for Educational Research and Development. In press.

Halpin, A. W. (1956), "The Leadership Behavior of School Superintendents." School-Community Development Study Monogram, Series No. 4. Columbus, Ohio: Ohio State University.

Harnack, Robert S. (1967), "Teacher Decision Making and Computer-Based Resource Units." Audio-Visual Instruction 12:32-35, January.

Havighurst, Robert J. (1964), The Public Schools of Chicago. Chicago: Board of Education.

Hemphill, J. K., and A. E. Coons (1950), "Leader Behavior Description." Columbus, Ohio: Personnel Research Board, Ohio State University.

Holmberg, Allan R. (1952), "The Wells That Failed: An Attempt to Establish a Stable Water Supply in the Viru Valley, Peru." Edward H. Spicer (ed.), Human Problems in Technological Change: A Casebook. New York: Russell Sage Foundation. Pp. 113-119.

Hunt, J. McVicker (1962), "The Psychological Basis for Using Pre-School Enrichment as an Antidote for Cultural Deprivation." Paper presented to the Arden House Conference on the Pre-School Enrichment of Socially Disadvantaged Children.

Jesser, David (1966), "Amplified Telephone Lecture Series." December.

Johnson, Donald W. (1963), The Dynamics of Educational Change. Sacramento, California: Bulletin of the California State Department of Education.

Joyce, Bruce R. (1967), "Interpersonal Sensitivity Training for Teachers: An Experiment." Paper presented at American Educational Research Association Annual Meeting. New York City, February 18.

Jung, Charles, and Ronald Lippitt (1966), "The Study of Change as a Concept in Research Utilization." Theory into Practice 5:25-29, February.

Juul, K. D. (1963), "Authoritarian Personality in Relation to Teachers' Attitudes Toward Child Behavior." Unpublished octor's dissertation. Detroit, Michigan: Wayne State University.

Kallenbach, Warren (1966), "Microteaching as a Teaching Methodology." Proceedings: Conference on Instructional Methods and Teacher Behavior. Berkeley, California: Far West Laboratory for Educational Research and Development. November 21-22. Pp. 14-19.

_______ (1967), "The Effectiveness of Videotaped Practice Teaching Sessions in the Preparation of Elementary Intern Teachers." Final Report. USOE Project No. 6-1303. Washington, D.C.: U.S. Department of Health, Education, and Welfare.

Katz, Daniel, and Robert Kahn (1966), The Social Psychology of Organizations. New York: John Wiley & Sons, Inc.

Katz, E., M. L. Levin, and H. Hamilton (1963), "Traditions of Research on the Diffusion of Innovations." Am Sociol R 28:237-252, April.

Katz, Philip (1967), "A Proposed Structure for Urban School Systems." Phi Delta Kappan 48:325-327, March.

Keppel, Francis (1966), The Necessary Revolution in American Education. New York: Harper & Row.

Kidd, J. S., and D. T. Campbell (1955), "Conformity to Groups as a Function of Group Success." J Abn Social Psychol 51:390-393.

Kinnick, B. J. (1957), "The Teachers and the In-service Education Program." In Nelson B. Henry (ed.), In-Service Education. Fifty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp. 131-152.

Knirk, Frederick G., and Lary G. McConeghy (1964), "Programming Teacher Education in Media: The Wayne State Approach." Audio Visual Instruction 9:527, October.

Krathwohl, David R., Benjamin S. Bloom, and Bertram B. Masia (1956), Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook II: Affective Domain. New York: David McKay Company, Inc.

Laux, Dean M. (1965), "A New Role for Teachers?" Phi Delta Kappan 46:265-268, February.

Lee, Gordon C. (1966), "The Changing Role of the Teacher." In John I. Goodlad (ed.), The Changing American School. Sixty-fifth Yearbook. Chicago: National Society for the Study of Education. Pp. 9-31.

Lesser, Gerald S., and Herbert Schueler (1966), "New Media Research in Teacher Education." AV Communications R 14:318-361, Fall.

Levine, Samuel (1965), "Effectiveness of the Head Start Orientation Training Program." Paper presented at the 17th Annual State Conference on Educational Research. California Teachers Association, Burlingame, California.

Lieberman, Myron (1961), "The Influence of Teachers' Organizations upon American Education." In Nelson B. Henry (ed.), Social Forces Influencing American Education. Sixtieth Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 182-202.

Lionberger, Herbert F. (1964), "The Diffusion Research Tradition in Rural Sociology and Its Relation to Implemented Change in Public School Systems." In Wesley C. Meierhenry (ed.), Media and Educational Innovation. Lincoln, Nebraska: University of Nebraska Press. Pp. 111-156.

Lipham, James M. (1964), "Leadership and Administration." In Daniel Griffiths (ed.), Behavioral Science and Educational Administration. Sixty-third Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 119-141.

Lohman, Joseph D. (n.d.), Cultural Patterns of Differentiated Youth: A Manual for Teachers in Marginal Schools. HEW Grant No. 63228. Berkeley, California: University of California.

Lorenz, Robert B., and Ray H. Kuipers (1964), "Future Teachers Sharpen Skills in Film-Tape Project." Audio Visual Instruction 9:182-183, March.

Losi, Carrie R. (1964), Annual Report Counseling Students. Newark, New Jersey: Division of Secondary Education, Department of Guidance, Board of Education.

Mackensie, G. N. (1964), "Curricular Change: Participants, Power, and Processes." In Matthew B. Miles (ed.), Innovation in Education. New York: Teachers College, Columbia University. Pp. 399-424.

Mager, Robert F. (1962), Preparing Objectives for Programmed Instruction. San Francisco: Fearon Publishers, Inc.

Maucker, J. W., and Daryl Pentergraft (1957), "Implications of In-Service Education Programs for Teacher-Education Institutions." In Nelson B. Henry (ed.), In-Service Education. Fifty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education. Pp. 264-282.

McCloskey, Elinor F. (1966), Urban Disadvantaged Pupils. Portland, Oregon: Northwest Laboratory for Educational Research and Development.

McDonald, Frederick J., Dwight W. Allen, and Michael Orme, (1966), "The Effects of Self-Feedback and Reinforcement on the Acquisition of a Teaching Skill." Paper presented at American Educational Research Association Annual Meeting. Chicago.

McKeatchie, Wilbert J. (1954), "Individual Conformity to Attitudes of Classroom Groups." J Abn Soc Psychol 49:282-289, April.

Meadows, Paul (1964), "Novelty and Acceptors: A Sociological Consideration of the Acceptance of Change." In W. C. Meierhenry (ed.), Media and Educational Innovation. Lincoln, Nebraska: University of Nebraska Press. Pp. 51-85.

Merton, Robert K. (1957), Social Theory and Social Structure. Revised edition. New York: The Free Press.

Metfessel, Newton S. (n.d.), "Conclusions from Previous Findings Which Were Validated from Research and Evaluation Conducted by the Staff of Project Potential." Los Angeles: University of Southern California. Mimeographed.

Michigan State University and the Lansing School System (1965), Teacher Orientation Workshop for Teachers of Culturally Disadvantaged Youth. Lansing, Michigan: Michigan State University.

Miles, Matthew B. (1964), "Educational Innovation: Some Generalizations." In Wesley C. Meierhenry (ed.), Media and Educational Innovation. Lincoln, Nebraska: University of Nebraska Press.

Miller, Richard I. (1967), "Educational Technology and Professional Practice." Address to The John Dewey Society Annual William Heard Kilpatrick Memorial Meeting. Dallas, Texas, March 11.

_______ (1967a), Perspectives on Educational Change. New York: Appleton-Century-Crofts.

Milner, Ernest J. (1966), "Preparing Teachers for Urban School--The Syracuse Program." Clearinghouse on Urban Teacher Education Report 2:1, 8-10, Spring.

Moore, Hollis A., Jr. (1964), "The Ferment in School Administration." In Daniel Griffiths (ed.), Behavioral Science and Educational Administration. Sixty-third Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 11-32.

Mort, Paul R., and F. G. Cornell (1941), American Schools in Transition. New York: Teachers College, Columbia University.

Mott, P. E., and F. W. Neff (1962), "Some Criteria for the Effective Acceptance of Organizational Change." Paper presented at American Sociological Association meeting.

Nardelli, Robert R. (1960), Enriching Teacher Education through Kinescope Recordings. San Diego, California: Campus Laboratory School Publication No. 3, July.

NEA Project on Instruction (1963), Schools for the Sixties. Washington, D.C.: National Education Association.

NEA Research Division (1963), The American Public-School Teacher, 1960-61. Research Monograph 1963-M2. Washington, D. C.: National Education Association, April.

NEA Research Division (1965-66), Estimates of School Statistics. Washington, D.C.: National Education Association.

NEA Research Division (1966), Inservice Education of Teachers. Research Summary 1966-S1. Washington, D.C.: National Education Association.

NEA Research Division (1966a), "Training Programs for Teachers of Culturally Disadvantaged Children." NEA Research Bulletin 44:125-126, December.

National NDEA Institute for Advanced Study in Teaching Disadvantaged Youth (1967). News Release, February 18.

New York State Commission for Human Rights (n.d.), Expanding Opportunities through Guidance. New York: New York State Commission for Human Rights.

Ohles, J. F. (1964), "How of Educational Reform." Clearing House 39:214-6, December.

Olson, C. O., Jr. (1965), "New Programs Race." Ed 86:221-225, December.

Ornstein, Allan C. (1964), "Teacher Training for 'Difficult' Schools." J Secondary Ed 39:172-173, April.

Parker, Cecil (1957), "Guidelines for In-Service Education." In Nelson B. Henry (ed.), *In-Service Education. Fifty-sixth Yearbook. Part I.* Chicago: National Society for the Study of Education. Pp. 103-128.

Patrick, Robert B., and Hugh M. Davison (1963), "The Effectiveness of the Documentary Sound-Film as a Supplement in a Secondary School Teacher Education--a Follow-up of First Year Teacher Performance." USOE Grant No. 7-48-0720-177. University Park: Pennsylvania State University.

Pellegrin, Roland J. (1966), "An Analysis of Sources and Processes of Innovation in Education." Mimeographed paper delivered at Conference on the Role of Demonstration Centers in Educational Change. Urbana, Illinois, February.

Pierce, Truman M. (1964), "Educational Change and the Role of Media." In W. C. Meierhenry (ed.), *Media and Educational Innovation.* Lincoln, Nebraska: University of Nebraska Press. Pp. 178-197.

Plank, John F. (1959), "Evaluation of In-Service Education Programs for Teachers in Selected Unified School Districts." Unpublished doctor's dissertation. The University of California at Los Angeles.

Riessman, Frank (1964), "Teachers of the Poor: Five Point Plan." Paper presented to the Conference on Urban Education and Cultural Deprivation. Syracuse University, July 16 and 17.

Rippberger, Donald R. (1967), "A Study of the History and Functions of the Los Angeles Cooperative Council on Inservice Education." Santa Barbara: University of California. Mimeographed.

Rivlin, Harry N. (1962), *Teachers for the Schools in Our Big Cities.* Division of Teacher Education, City College of the University of New York.

Rogers, Carl R. (1967), "A Plan for Self-Directed Change in an Educational System." *Ed Leadership* 24:717-731, May.

Rogers, Everett M. (1962), *Diffusion of Innovations.* New York: The Free Press of Glencoe.

Rogers, William R. (1959-1962), "Television Utilization in the Observation Program for Teacher Education." San Jose, California: San Jose State College.

Rollins, S. P. (1958), "A Study of the Diffusion of Information within Secondary School Staffs." Unpublished doctor's dissertation.

Sanders, Norris M. (1966), Classroom Questions. New York: Harper & Row.

Scher, Saul N. (1966), "Teaching Counseling with TV." The NAEB J 25:24-26, November-December.

Schmuck, Richard (1967), "Training Teachers for Improved Classroom Peer Relations." Paper presented at American Educational Research Association Annual Meeting. New York City, February 18.

Seeman, Melvin (1962), "Role Conflict and Ambivalence in Leadership." In Robert Bell (ed.), Sociology of Education: A Sourcebook. Homewood, Illinois: The Dorsey Press, Inc. Pp. 297-307.

Shils, E. A. (1950), "Authoritarianism: 'Right' and 'Left.'" In R. Christie and M. Jahoda (eds.), Studies in the Scope and Method of "The Authoritarian Personality." Glencoe, Illinois: Free Press.

Shumsky, Abraham (1958), The Action Research Way of Learning: An Approach to In-Service Education. New York: Teachers College, Columbia University.

Singer, Ira J. (1964), "What Team Teaching Really Is." In David W. Beggs III (ed.), Team-Teaching--Bold New Venture. Indianapolis, Indiana: Unified College Press.

Smiley, Marjorie B. (1967), "Objectives of Educational Programs for the Educationally Retarded and the Disadvantaged." In Paul Witty (ed.), The Educationally Retarded and Disadvantaged. Sixty-sixth Yearbook. Part I. Chicago: National Society for the Study of Education, Pp. 121-143.

Smith, Gordon L. (1965), "South Carolina's ETV Program." Audio-Visual Instruction 10:550, September.

Smith, Lewis M., and Frank W. Luty (1964), "Teacher Leader Behavior and Pupil Respect and Liking." J Ed Res 57:434-436, April.

Snively, Pearl C. (1960), "Tape Recorded Teaching at Hagerstown." Ed Screen and Audiovisual Guide 370:226-228, May.

Stanford Teacher Education Program (1967), "Micro-Teaching: A Description." Stanford University: School of Education. Unpublished monograph.

Stogdill, Ralph (1959), Individual Behavior and Group Achievement. A Theory. The Experimental Evidence. New York: Oxford University Press.

Storlie, Theodore R. (1963), "Applications of Interaction Analysis to the In-Service Training of Teachers." Paper presented at the American Educational Research Association Annual Meeting. Chicago, February.

Taba, Hilda (1965), "Techniques of In-service Training." Social Education 29:464-476, November.

_______ (1966), Teaching Strategies and Cognitive Functioning in Elementary School Children. Cooperative Research Project No. 2404. San Francisco: San Francisco State College.

_______ (1967), "Curriculum Development." In Catalyst for Change: A National Study of ESEA Title III. Washington, D.C.: U.S. Government Printing Office.

_______ and Freeman Elzey (1964), "Teaching Strategies and Thought Processes." Teachers College Record, Vol. 65, March.

_______ and James Hills (1965), Teacher Handbook for Contra Costa County Social Studies Grades 1-6. Hayward, California: Rapid Printers and Lithographers, Inc.

_______, S. Levine, and F. Elzey, Thinking in Elementary School Children. Cooperative Research Project N. 1574. San Francisco: San Francisco State College.

Teitelbaum, Deena (1966), An Evaluation of an Experimental Program of Assistance for Newly Appointed Teachers in Special Service Elementary Schools. New York: Board of Education of the City of New York.

Thelen, Herbert A. (1967), "Urban School Systems." Phi Delta Kappan 48:327-328, March.

Thompson, Franklin J. (1960), "Use of Closed Circuit Television in Teacher Education: Relationships to Professional Attitudes and Interests." Unpublished Doctor's dissertation. Minneapolis: University of Minnesota.

Tyler, Ralph W. (1961), "Understanding Stability and Change in American Education." In Nelson B. Henry (ed.), Social Forces Influencing American Education. Sixtieth Yearbook. Part II. Chicago: National Society for the Study of Education. Pp. 230-246.

Ulcek, Charles (1966), "Classroom Simulation in Teacher Education." Audio Visual Instruction 11:86-90, February.

Van Horn, Charles, and Max Beberman (n.d.), "A Study to Determine the Relative Effectiveness of the Use of a Series of Filmed Demonstrations in Teacher Education for a New High School Mathematics Curriculum." USOE Project No. 158. Urbana, Illinois: University of Illinois. Mimeographed.

Vogel, Francis X. (1967), "The Central School Project: An Attempt to Evaluate the Effects of an In-Service Program and an Experimental Form of School Organization." Paper presented at American Educational Research Association Annual Meeting. New York City, February 17.

Wagenscheim, Miriam (1950), "Reality Shock. A Study of Beginning Elementary School Teachers." Unpublished Master's Thesis. Chicago: University of Chicago.

Wendt, Paul (1964), "General or Foot Soldiers?" In Wesley C. Meierhenry (ed.), Media and Educational Innovation. Lincoln, Nebraska: University of Nebraska Press, Pp. 404-420.

Wenger, Marjorie A. (1959), "Glencoe's Summer Program Has Two Aims: Competence and Enrichment." Nation's Sch 64:58-63, October.

Wiles, Kimball and Hulda G. Grobman (1958), "The Role of the Principal in Curriculum Development." Ed Adm and Sup 44:10-14, January.

Wittich, Walter A., Clinton West, and Gerald M. Schnabel (1963), The Wisconsin Audio Visual Television Project. Madison, Wisconsin: The University of Wisconsin School of Education. June.

Wittrock, M. C. (1962), "Set Applied to Student Teaching." J Ed Psychol 53:175-180, August.

APPENDIX A

SUMMARY OF RESEARCH: USE OF MEDIA FOR INSERVICE EDUCATION

MEDIA USED	GENERAL CONCLUSIONS	GENERAL COMMENTS
Broadcast Open Circuit	Many of the same conclusions reached for closed circuit television apply to open circuit television.	1. Students may receive lessons at home or any other convenient location. 2. Saves on institutional space. 3. Reaches a large audience without regard for district or school jurisdictional lines. 4. Telelessons provide for well-planned, carefully visualized presentations. 5. Several districts can combine efforts. 6. Each district will receive the services of the best consultants. 7. More persons can be reached at one time. 8. The consultant can make use of graphic artists, technical help, and specialized resources. 9. Kinescopes can be processed from TV tapes. Great disadvantage: Lack of feedback between instructor and student.
Computers	Information retrieval systems would be an excellent resource for the continuing education of teachers. A teacher's time is limited and "instant information" would save hours of research which could better be used in study and planning. A classroom simulator is too expensive and complicated to set up for inservice education. Videotapes of a classroom performance would be of more value.	There is much to be done in the area of computer data systems. It seems to hold a great promise for retrieval of information for making educational decisions.

MEDIA USED	GENERAL CONCLUSIONS	GENERAL COMMENTS
Films (Kinescopes)	The production and use of film-tape materials could be included in a programed text designed to assist teachers in production and utilization of instructional media. Kinescopes of "key" lessons would be a valuable tool for workshops as both an instructional tool and as a point for discussion. Kinescope recordings provide an effective medium for observations of classrooms which could be used for teachers' meetings and workshops.	Film is easier to distribute than videotape. Disadvantages: Film is an irretrievable expense. It is static, requires more structuring than television.
Microteaching Closed circuit television	Inservice teachers can profit from the opportunity of seeing themselves teach. A microteaching tape could be of great help to administrators in teacher selection. A central depository of microteaching tapes would be an excellent resource for teacher meetings and workshops.	Teaching models from every curriculum area, special skills and teaching techniques could be recorded on videotape and deposited in a central library using the objective orientated short vignette approach.

MEDIA USED	GENERAL CONCLUSIONS	GENERAL COMMENTS
Closed Circuit Television	Utilization of CCTV can allow inservice teachers to observe master teachers in action. Videotape and CCTV can be utilized to advantage in inservice education. Television recordings of classroom activities and teaching techniques may be used for evaluation and demonstration purposes. Television teachers may view and evaluate their own teaching and lessons as a whole. Taped lessons can be shown to PTA, civic groups and visitors. Taped lessons may be used for inservice, workshops, conferences, future resources. TV should be a definite part of inservice education. Administrators should prepare for programs and provide discussion leaders. Programs should be carefully planned to cover specific areas. Demonstration teaching is very effective. There should be close cooperation between TV personnel and the teachers. School services can be explained effectively via television. Time of presentations is important.	Most of the studies agreed that television was an excellent medium for inservice and pre-service preparation of teachers. Television may be used successfully in courses for college credit, curricula and methods improvement, faculty meetings, extension courses and public understanding of education. Length of inservice programs are important.

MEDIA USED	GENERAL CONCLUSIONS	GENERAL COMMENTS
Programed Instruction	Programed materials can effectively teach necessary skills and inservice training to teachers.	
Catalogs of TV programs	A central depository of tapes of inservice programs is maintained in several centers.	Very few good ones on inservice, but they are getting better all the time.
Surveys and papers relating to media	Found in most libraries.	
Conferences & workshops relating to media	Only the recent ones are reported.	
Media Laboratories	Very useful for selected groups to utilize all kinds of AV equipment and materials.	AV materials can make a valuable contribution to teaching and learning but must be integrated into the total teaching activity.
Filmstrips	Minimal use.	
Radio/TV combination	Excellent: TV for distribution; radio for feedback.	

MEDIA USED	GENERAL CONCLUSIONS	GENERAL COMMENTS
Slide/tape	Useful for small groups.	
Amplified telephone	Very unique. Could be very useful in rural areas.	

APPENDIX B

COMPARISON OF VIDEOTAPE AND FILM

COMMENTS ON:	VIDEOTAPE	FILM: KINESCOPE
PLAYBACK	Videotape recorder and technical personnel required.	16 mm sound projector easily operated by teacher.
EXPENSE		
STORAGE	Videotapes must be stored carefully since humidity and temperature can make them deteriorate. Packages are bulky and heavy.	Films can be stored easily and packages are compact.
DISTRIBUTION	Tapes can only be used when video tape recorder is available.	All schools have access to 16mm projectors.
PRODUCTION	Black and white only for school use. Videotape doesn't need processing and thus is available for immediate use. It is appropriate for production with limited use.	If color is important, film is the only answer. Film is better for permanent productions.
	Tape is easily edited. AV materials can be easily deleted or added.	Once a film is finished, it cannot be changed.
	Tapes can be erased and re-used, easily repaired.	Film is permanent. The expense is irretrievable.
	A television production is more flexible than a film production.	Since a film is so expensive to produce (cost of film plus processing and editing), it is a more structured presentation than television.